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THE

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THE MEDICAL NEWS.

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VOL. XLI. SATURDAY, JULY 1, 1882. NO. 1.

ORIGINAL LECTURES.

A CLINICAL LECTURE ON PNEUMONIA.

Delivered to the Clinical Class in the Mercy Hospital of Chicago, May, 1882.

BY N. S. DAVIS, M.D., LL.D.,

PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE IN THE CHICAGO MEDICAL COLLEGE, AND SENIOR PHYSICIAN TO THE MERCY HOSPITAL.

(Reported for THE MEDICAL NEWS.)

GENTLEMEN: I intend to occupy your attention during the present clinic hour with the subject of pneumonia.

The patient before you is a laboring man, about thirty years of age, who has usually enjoyed good health. Nine days since he was much exposed to wet and cold, and was attacked with a well-marked chill, followed by pain in the left side of the chest, fever, and some cough. His symptoms continuing to increase, he was transferred to the hospital on the evening of the second day. At that time his temperature was 39.5° C. (103° F.); face flushed; skin dry; pulse 100 per minute, and moderately full; cough frequent, but not severe, and accompanied by a scanty expectoration of glairy mucus, slightly tinged with blood. There was slight dulness on percussion over the lower lateral and posterior part of the left side of the chest, and a distinct crepitant râle below the axilla of the same side. These physical signs, coupled with the general symptoms, indicated the existence of pneumonic inflammation occupying the lower and a portion of the middle sections of the left lung, just at the stage of progress when the primary engorgement of the capillary vessels had begun to cause active exudation of the corpuscles and plasma of the blood into the alveoli or air-cells and interstitial spaces of the lung structure. The following day the temperature increased to 40° C. (104° F.), and the pulse to 110 per minute. The face was more flushed; breathing shorter and somewhat stifled on account of a sharp or lancinating pain in the lower part of the left side, which had supervened during the latter part of the night. The expectoration was still scanty, but more stained with blood. The tongue was coated, bowels quiet, urine scanty and high colored, and the skin dry; percussion and auscultation showed an increase of dulness over the left side, from the line of the axilla to the diaphragm; slight crepitant râle along the upper part of the affected portion of the lung, with moderate mucous râles over all the lower part of the left side of the chest, and a slight pleuritic friction just above the attachment of the diaphragm. It was now evident that the pneumonic inflammation had fairly entered upon its second stage, or that of exudation and red hepatization, while a limited portion of the pleura had also become involved. Soon after his admission the evening previous, the house-physician had the left side of the chest covered with a linseed-meal poultice, and directed him a teaspoonful of the following mixture every four hours:

℞. Ammon. muri.	12.00 grammes,	.	ʒiij.
Ant. et pot. tart.	0.13 "	.	grs. ij.
Morph. sulph.	0.20 "	.	grs. iij.
Syrup. glycyrrhizæ,	130.00 c. c.,	.	ʒiv.—M.

At my visit the next day, finding the patient as just described, I advised a continuance of the emollient application over the chest, and of the formula just given; but directed to be given in addition a powder of sulphate of quinia 0.33 gramme (gr. v), and calomel 0.06 (gr. j), every four hours, making the powder and the cough mixture alternate two hours apart. The next day, which was the fourth after the initial chill, the temperature was only 39° C. (102.1° F.); the face less flushed; the skin moist; the expectoration more free and opaque, but still tinged with blood; the pulse more soft, but about the same frequency; little or no continuous pain in the chest, but still a sharp stitch in the lower part of the left side, on attempting to take a full breath or a free cough. Percussion showed no change in the degree or area of dulness, but auscultation detected neither fine crepitant râle nor friction, but a moderate mucous râle over the affected side.

I directed the same treatment to be continued, except the omission of the calomel from the powders, and the addition of a blister plaster, four by four inches, over the seat of sharp pain in the left side. The next, or fifth day of sickness, the records showed his temperature to have been 37.7° C. (100° F.) in the morning, and 38.5° C. (101.5° F.) in the afternoon; pulse 100 and soft; respirations 18 per minute; and chest free from pain, except on taking a very full inspiration; expectoration easy and quite free from blood; skin continued moist; urine more abundant; and one free evacuation of the bowels. Auscultation detected less mucous râles and a greater degree of expansion of the lung during inspiration, and yet there remained decided dulness on percussion over a limited portion of the lower and posterior part of the left side of the chest. The quinia powders were now reduced to 0.20 gramme (gr. iij) instead of 0.33 gramme (gr. v), and continued every six hours, with the cough mixture between, and milk and beef-tea more liberally for nourishment.

The patient continuing steadily to improve during the sixth and seventh days, the use of the anodyne expectorant was limited to one dose before breakfast and at bed-time, and the quinia to one powder after each meal-time. During the last two days, the eighth and ninth, he has been up each day; taken nourishment freely; had regular evacuations, but neither cough nor soreness in any part of his chest. In fact, he is so far advanced in his convalescence that he is now dressed ready to leave the hospital. I have called your attention to the details of this case, gentlemen, as a familiar example of one of the most important inflammatory affections you will meet in the ordinary field of general practice. Pneumonia, or inflammation of the parenchyma of the lung, is of frequent occurrence during the cold season of the year throughout the greater part of the temperate zone of the earth's surface. It usually prevails most during the latter part of winter and early part of spring. This is particularly true in those localities where periodical or malarious fevers prevail during the latter part of summer and autumn. It attacks persons at all periods of life, but is much more likely to prove fatal in early childhood and old age than in youth or early adult life. I have noticed that a very large proportion of the members of our own profession who die after fifty years of age do so from pneumonia.

The statistics presented by Dr. Samuel Forrey, in his valuable work on the climate of the United States, and its influence on the prevalence of diseases, appeared to show that pneumonia was most prevalent, and caused the highest ratio of mortality in what he called the middle climatic belt, which is that lying between the

thirty-fourth and thirty-ninth parallels of latitude. It is in that belt of country that we have long-continued and high summer heat, and though the winters are comparatively short, there are some days of intense cold, giving the thermometric combination of long and warm summers, short and cold winters, and wide range between the highest heat of summer and the coldest days of winter. Other circumstances being the same, it was where these characteristics were most marked that he found attacks of pneumonia and pleurisy to be numerically most frequent and most fatal. But in the northern belt, including all our country north of the thirty-ninth parallel, where the winters are more protracted, the summers shorter, with long and very changeable transition seasons, he found the highest ratio of prevalence of bronchitis, catarrhal affections, and rheumatism. The laws thus deduced by Dr. Forrey, chiefly from the statistics of the several military posts in the United States more than forty years since, have only been confirmed by the subsequent observations of others.

Etiology.—It is probable, however, that the general climatic features to which I have alluded, exert only a predisposing influence upon the whole population, while other causes acting more directly upon individuals are required to determine an attack. The most important of these direct exciting causes are doubtless exposures to cold and damp atmospheric changes, excessive physical exertion, intemperate habits, and lying on the damp ground, especially at night. A much larger number of cases occur in males than in females, and in those following out-door occupations than in those working in-doors.

Pathology.—Thus far, gentlemen, I have spoken of pneumonia as a simple local inflammation affecting the parenchyma of the lung; but there are many, at the present day, who claim that it is a general zymotic disease, and consequently to be classed with the idiopathic fevers. The principal reasons assigned for this view are that acute lobar pneumonia, pneumonitis, or croupous pneumonia, as it is variously designated by different writers, is accompanied by a fever which runs a definite course, is self-limited in duration, and does not always correspond in its severity with the extent or intensity of the inflammation in the lung. These reasons do not appear to me sufficient to sustain the conclusion drawn from them. It is true that pneumonia, like all other acute inflammations in vascular structures, runs a definite course, marked by a stage of intense engorgement or hyperæmia of the inflamed structure, a stage of exudation and more or less solidification, and a stage of resolution or suppuration; and the general fever rises with the first, reaches its acme in the early part of the second, and disappears with the beginning of resolution, or changes to a lower grade if suppuration supervenes instead of resolution. But the same is true concerning the fever that accompanies an acute pleurisy, or meningitis, or cerebritis, or hepatitis. Again, acute inflammation in any vascular structure is not a process that can remain stationary. Its first stage of vascular engorgement, if not speedily relieved, *must* be followed by exudation and more or less condensation, during which the greatest amount of heat will be evolved; and if the exudative material is not speedily removed by reabsorption, at the very beginning of which the fever heat would quickly disappear, it must degenerate into purulent, caseous, or fibrinous material, and either destroy life or undergo a slow process of repair. Consequently all acute inflammations in important organs are necessarily self-limited in their duration; and I have not been able to discover anything in the clinical history of pneumonia which, in this respect, differs from the history of other important local inflammations. On the other hand, it differs from the general or idiopathic fevers, in having no appreciable prodromic or forming stage prior to the appearance of the local phenomena; in being generally unilateral or attacking only one lung, or even a small part of one lung at a time, and in the fact that one attack does not in any *degree* lessen the liability to subsequent attacks.

It also prevails most at the same seasons of the year, and under the influence of the same exciting causes, as the inflammations of other parts of the respiratory apparatus, and not unfrequently in conjunction with them, as in pleuro-pneumonia, broncho-pneumonia, etc. I shall, therefore, continue to speak of the disease as one of the phlegmasiæ or important local inflammations. Clinical experience has shown that the inflammation commences in much the larger number of cases in the lower and middle lobes of one lung, and is often limited to these throughout its course. Sometimes it attacks corresponding lobes of both lungs at the same time, constituting double pneumonia, and cases are not wanting in which it commenced at the apex of one lung. If it supervenes as a complication with bronchitis, it is quite apt to develop in individual lobules of the lungs, constituting the variety called lobular pneumonia.

This occurs most frequently in young children. In whatever part of the lung structure the inflammation may commence, the essential pathological changes are the same as occur in all other acute inflammations. First, increased susceptibility or irritability of texture and intense engorgement of the blood in the vessels of the part. This constitutes the first stage, and usually lasts from one to two days, during which time many of the white corpuscles are attracted to the walls of the distended vessels, and the red adhere to each other in rows or chains, thereby adding to the obstruction of the circulation through the part. A continuance of this distention and obstruction of vessels and capillaries soon causes many of the corpuscles, with more or less of the plasma, to permeate the walls of the vessels into the interstitial spaces, the alveoli or air-cells, and bronchioles, thus excluding the air and rendering the whole structure more dense, constituting the condition called red hepatization, which is the second stage in the inflammatory process.

I shall not stop to discuss the question whether the process of exudation by which the inflamed structure becomes filled with the corpuscles and plasmic elements of the blood is one of cell proliferation, as claimed by Virchow and his followers, or one of exosmose aided by the affinity of the over-excited tissue for the blood elements, inasmuch as the practical results are the same; for neither the cell proliferation nor the exosmose would take place without the preceding irritability of tissue, and vascular fulness, and you may regard it as a rule, that in proportion to the intensity of the two last, will be the extent and persistence of the first. Thus far the pathological changes taking place in the inflamed lung are uniform in kind in all cases, differing only in the degree or amount of change. But the subsequent steps may lead to either of the following results, according to the coincidence of certain circumstances or variable elements that are liable to be present in each case: First, if the general properties of the tissues are natural, and the blood plastic and free from toxemic elements at the time of the attack, and the amount of exudation into the tissues is moderate, the diminished oxygenation and decarbonization of the blood will render it sufficiently sedative to check both the general fever and the local excitability, and the exudative material will undergo rapid disintegration and removal by absorption, constituting what is called resolution, and an early recovery. This is the result obtained in a large majority of the cases of ordinary uncomplicated pneumonia. Second, if the amount of exudative material filling the inflamed struc-

ture be so great as to over-distend the interstitial spaces and carry some of the corpuscular elements or leucocytes beyond contact with the living fibres, such elements will rapidly degenerate into pus corpuscles, and more or less suppuration instead of resolution will be the result, thereby protracting the patient's sickness, and often ending in a fatal degree of exhaustion. Third, if at the time of the attack, the patient has that deviation of the properties of his tissues and qualtity of his blood, from the normal standard which constitutes the scrofulous and tuberculous diathesis, then the exudative material that accumulates in the second stage will be very liable to undergo the caseous instead of direct purulent degeneration, causing the tissue to remain dense after the febrile stage has passed, and rendering the convalescence slow and incomplete.

In most of these cases, in a few weeks or months, the caseous material undergoes further degeneration into purulent matter, accompanied by all the phenomena of actively progressing pulmonary phthisis. Fourth, cases are met with, though rarely, in which the plasticity of the exudative material and the vital affinity of the tissue are such that more or less of the former becomes permanently organized and attached to the walls of the alveoli in the same manner as the plastic material thrown out upon the inflamed serous membranes, is organized into false membrane and made the bond of permanent adhesions. In these cases, the entire stages of the pneumonia pass rather slower than usual, and convalescence ensues. But on getting up, the patient is found to have undue shortness of breath and weariness on taking exercise, and a physical examination reveals diminished expansion of the affected side of the chest, diminished resonance on percussion, increased fremitus or vibration of voice, thus indicating density of the lung structure and diminished capacity "for air," without any other local or constitutional signs of phthisis. In this condition I have known a few patients remain for many years able to attend to a moderate amount of business with but little difficulty. And yet there is a tendency, in the greater number of such cases, to have further degenerative changes supervene sooner or later, in the primarily affected part of the lung, and causing them to be classed by some as chronic pneumonia and by others as fibroid phthisis. From this brief statement of the important pathological changes occurring in pneumonia, you will see that those of the first and second stages are the same in kind in all cases, varying only in degree; while those of the third stage vary much, both in the direction of the changes and in the results.

(*To be continued.*)

ORIGINAL ARTICLES.

PURPURIC SMALL-POX:

A CASE, WITH AUTOPSY AND SEQUEL.

BY GEORGE H. ROHÉ, M.D.,

CLINICAL PROFESSOR OF DERMATOLOGY, COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE.

ON the twelfth of March last, the steamship *Hermann*, with 727 emigrants on board, arrived at Baltimore, 18 days from Bremen. She had a clean bill of health to show; and though one death had occurred on the voyage, which raised a suspicion of small-pox, prompt prophylactic measures had been at once adopted, and no further indications of the disease had been observed. The quarantine physician carefully examined all the passengers, and those who showed no evidence of previous successful vaccination, were properly vaccinated. Most of the passengers were at once transported, *via* Baltimore and Ohio Railroad, to their destinations in the Western States,[1] while a comparatively small number remained in and about the city of Baltimore.

On March 15, H. Frederickson, a rather robust German, about forty years of age, who had been acting as a stoker on the *Hermann*, was admitted into the City Hospisal, suffering from what was recognized as a frank case of erysipelas. The erysipelatous inflammation was diffused over the head and greater portion of the upper extremities, having as starting-points three carbuncular swellings, situated on the upper lip, the right wrist, and left hand, respectively. These carbuncles, or boils, were opened, and discharged a considerable quantity of pus and necrosed connective tissue. He was immediately placed on the usual treatment for erysipelas —tincture of iron, in full doses—and the suppurating local lesions received proper attention. An improvement was rapidly manifest, and in the course of three days the erysipelas had nearly disappeared. On the following day, there was a renewed accession of the fever, with considerable headache, and some nausea and vomiting. The latter symptom was ascribed to the tincture of iron which the patient had been taking, and this was accordingly discontinued. During the afternoon of this day, a red rash—not elevated above the skin—appeared on the face, and by next morning had spread pretty well over the body. The eruption resembled scarlet fever, and was accompanied by some redness and swelling of the throat. During this day—the second of the eruption—small petechial spots were observed on various parts of the body, especially the abdomen and extensor surfaces of the arms. The headache and vomiting continued. No pain in the back was complained of.

On the third day, the petechial eruption became general, the spots in some places coalescing to form large, brown patches, not disappearing under pressure. Free perspiration had also been noticed. A small number of disseminated, small, conical papules were observed on the inner anterior aspect of the thighs, and believed to be lichen pilaris.

I saw him for the first time about one o'clock of this day, 21st, but had only a few minutes in which to make a very incomplete examination, being called away to assist in an operation, and promising to return and see him again in the evening. The history, as above detailed, I have obtained since that time. Within an hour after I saw him, he was taken with violent pain in the lumbar region, and died about 3 P. M. His mental faculties were unimpaired to the last.

The *autopsy* was made eight hours after death by Dr. Branham and myself, assisted by Drs. Van Note and Thomas, resident physicians at the hospital. The body was moderately well nourished. Rigor mortis was present in only a very slight degree.

[1] The *National Board of Health Bulletin* for April 8, contains a telegram from Dr. J. H. Rauch, Secretary of the State Board of Health of Illinois, conveying the information that a case of small-pox, by direct importation on the steamship *Hermann*, has developed at Ottawa, in that State.

The surface of the body was completely covered with petechial spots, which were aggregated in large numbers, especially on the chest, neck, the extensor surfaces of the arms and on the scrotum. In these localities they coalesced and formed large, brown patches, not disappearing under pressure. On the thighs were some papules of lichen pilaris.

The chest was opened in the usual manner. The subcutaneous connective tissue and fat were found infiltrated throughout with blood. The pleuræ and mediastinal tissue were also permeated in the same manner. All these tissues were softened and looked as if they had been soaked in bloody serum. At points, here and there, the color was darker, marking small hemorrhagic infarctions. About two ounces of bloody serum were found in the pericardium.

The pleuræ were soft, easily torn, and of a brownish color from the infiltrated blood. Pretty firm, recent pleuritic adhesions were found on the right side. The lungs were œdematous, and the right lung was adherent at the apex. The heart was empty, soft and flabby, and dark-red in color.

On opening the abdominal cavity, the omentum was found generally infiltrated with blood, giving it a rusty color. The liver of about the usual size, possibly a little enlarged, and somewhat softer than natural. The spleen was enlarged to about four times its normal size, very dark in color and very friable. The kidneys were enlarged to about twice the natural size, with ecchymotic spots in the tissue of the capsule and effusions of blood underneath the capsule. The surface of the right kidney presented disseminated ecchymotic spots similar to those on the surface of the body, and a large clot was found in the lower part of the capsule.

The mucous coat of the stomach was covered with disseminated ecchymoses. A large subserous clot of the duodenum extending about one and a half inches from the pyloric extremity of the stomach was also found.

The bladder contained a small quantity of bloody urine, but appeared otherwise healthy.

The right temporal muscle was permeated by blood, which also appeared in closely-disseminated spots throughout the other muscles of the scalp.

The dura mater was slightly thickened and the pia mater somewhat congested. The brain appeared normal, with the exception of some hypostatic congestion in the occipital region.

The spinal cord was not examined.

While making the autopsy, some points in the history of the case suggested to me Trousseau's description of one form of hemorrhagic small-pox, and led me to make a remark to that effect to Dr. Branham. But upon examining the arm and finding a good vaccination scar we dismissed the thought, and contented ourselves with simply noting the appearances found post mortem, believing that the purpuric condition could be accounted for by the blood-poisoning (erysipelas) through which the patient had just passed. A few days after the death of this patient, I learned for the first time that several cases of small-pox had been taken to the quarantine hospital from among the passengers on the same vessel in which Frederickson had arrived.[1]

On reviewing the clinical history and the post-mortem record, and comparing them with those characteristic of small-pox as given by good authorities, I could not at that time reconcile the discrepancies which seemed to me to negative that diagnosis.

Nothing further occurred to cause suspicion until April 2, when Dr. Van Note, who had been only occasionally present in the room when the autopsy was made, complained of indisposition, and in the course of the following day developed a pretty high fever with some mental disturbance. The notes of his case, for which I am indebted to Dr. J. W. Chambers, his medical attendant, are as follows:

April 2. 2.10 P. M.—Slight chill, followed by fever. At 9 P. M., temperature 104°, headache, and a diffuse redness over the entire body, less marked on the face than elsewhere. Ordered twenty grains of quinia every four hours.

3d. 10 A. M.—Temperature 104.5°, notwithstanding the heavy doses of quinia. Redness still marked, no headache, some pain in the back and knees. At 5 P. M., temperature 104.8°, pulse 120; slight mental disturbance when awaking from sleep. Continued quinia and ordered sponging every half hour. At 10 P. M., temperature 105.5°, pulse 130; delirious and very restless. Was wrapped in a wet sheet, and sprinkled with cold water every fifteen minutes for two hours. At the end of that time his temperature was 103.5°, and he expressed himself as being much more comfortable.

4th. 9.30 A. M.—Temperature 101.5°, pulse 100. The redness was less intense and a few papules were scattered here and there over the body. These symptoms seemed to justify the diagnosis of small-pox, and on the same day Dr. Van Note was removed to the quarantine hospital, his wife volunteering to accompany him as nurse. At this writing (April 20), he is entirely well and has returned to the city.

On April 3, a German sailor, who had for six weeks been an inmate of the City Hospital, undergoing treatment for a fractured thigh, and who occupied the bed next to Frederickson, was attacked with slight fever, headache, but no pain in the back, which latter symptom was present in but a slight degree on the next day, when I examined him carefully. He had no nausea or vomiting, and no free perspiration. On the third day (second of the fever), a bright-red rash appeared upon the face, extending to the neck and chest, but not invading the abdomen. The feet were also somewhat reddened, and by the following day an abundant crop of papules had appeared on the forehead, face, hands, and feet. The temperature had fallen to near the normal, but the pulse remained frequent and somewhat feeble in force. On April 5, this patient was also removed to the quarantine hospital.

On April 4 a third case developed, the symptoms being slight fever and vomiting, but no pain, either

[1] These cases were three in number. Two of them were of the petechial form and died soon after their admission into the hospital; but in these cases the characteristic pustular eruption of small-pox had appeared, rendering their diagnosis a matter of no difficulty.

in the back or head. By the following day a suspicious eruption had appeared, and he was also sent to the small-pox hospital at the quarantine station.

A boy, about twelve years of age, who had occupied a bed between the two foregoing cases, had slight fever and headache on the night of April 4, but appeared bright and well on the following morning, when he was discharged from the hospital and sent home. A day or two after, he was also sent to join the others at the quarantine station, having in the meantime developed an attack of varioloid, which proved, however, to be exceedingly mild.

The diagnosis of variola, either true or modified, was verified in all these cases by the subsequent history as recorded at the small-pox hospital.

Immediately upon the discovery of the nature of the disease from which Dr. Van Note suffered, all the patients in the City Hospital were vaccinated, the floors and woodwork thoroughly scrubbed, the walls whitewashed, the bedding changed and disinfected, and the beds and bedding occupied by the infected individuals destroyed. This was the end of what threatened to be the origin of a serious epidemic of the disease in a thickly populated and rather unsanitary part of the city. This gratifying result is doubtless due to the prompt vaccination and the thorough disinfection (cleaning) of the hospital as soon as the character of the disease was discovered.

In the text-books and treatises on the practice of medicine, this anomalous form of small-pox is so lightly passed over, that I have felt the importance of calling the attention of others to its occasional occurrence, in order that a more prompt diagnosis and the institution of efficient prophylactic measures may avert the consequences which resulted in the case here reported. Purpuric small-pox is comparatively a very rare form of the disease, though, like malignant scarlet fever and diphtheria, it occurs more frequently in some epidemics than in others. No one can question the very large experience of Trousseau, and yet it appears from his language that he rarely had opportunities for observing such cases. Kaposi,[1] who gives on the whole the best and fullest description of the disease I have met with, states that from 1866 to 1871, when small-pox might be said to be constantly epidemic in Vienna, he observed only one case of purpuric small-pox among 4,088 small-pox cases in hospital, and two cases in private practice. In 1874, however, he saw ten purpuric cases in 209 cases of small-pox.

Kaposi makes the remarkable statement that vaccination does not seem to be protective against this form of variola. In fact, purpuric small-pox occurs so often, proportionately, among vaccinated and revaccinated individuals, or such as have previously passed through an attack of small-pox, as to excite surprise. Again, it is not the old, decrepid, cachectic individuals of the lower classes, but more particularly well-nourished young persons, who live among the most favorable conditions, that seem to be especially liable to this violent form of the disease, which is almost without exception, fatal.

[1] Path. u. Therap. der Hautkrankheiten, Wien. 1879, pp. 235–239.

A form of small-pox in which hemorrhage takes place into the pustules, after the latter have become developed, is not so very infrequent. I recall a case that I saw in 1877, in this city, in which an attack of small-pox occurred for the third time—the last two attacks being in consecutive years—where the bullæ, of enormous size, were filled with blood. This attack proved fatal on about the fifth day of the eruption.

The scarlatiniform, or morbiliform, rash which generally precedes the outbreak of the petechiæ, is very deceptive, and may—and doubtless often does—lead to a diagnosis of scarlatina, rötheln, or measles. There is, at first, no means of differentiation, except possibly by the general symptoms, which are not reliable. One would not be led to suspect small-pox in a case like the one here reported unless in a time of general epidemic.

Curschmann[1] says of the petechial or purpuric variola: "Very soon (even in from eighteen to thirty-six hours) a diffuse, scarlatiniform—very rarely macular—redness invades the trunk and extremities, but leaving the face almost always exempt." There is in most cases great depression, nausea and vomiting, frequently bloody stools and urine, and stupor or marked mental derangement. The tongue is swollen and red, and the breath has a fetid odor.

In the case here reported, the redness first appeared on the face, and then spread to the trunk and extremities. Although nausea and vomiting were present, there were no bloody stools, the urine was not notably abnormal, there was no mental derangement, no glossitis, and no fetor oris. Even after death no fetid smell attached to the cadaver.

The post-mortem appearances in my case were also different from those given by the best authority as characterizing this variety of small-pox. According to Ponfick (as quoted by Curschmann[2]), the liver, kidneys, and spleen are not enlarged in subjects dead with purpuric variola. The spleen is said to be small, hard, dirty dark-red, sometimes with large white or yellowish follicles. Ponfick also states that the heart is contracted, firm, and brownish-red. The notes of the autopsy of my case show the liver to have been very slightly above the normal size, and not apparently much altered; the spleen was very large, dark-brown—almost black—and very friable; the kidneys were more than double the normal size, and with bloody infarctions in the substance of one of them. The heart was empty and uncontracted.

Hence it appears that, according to the clinical history and the post-mortem appearances in this case, the diagnosis of purpuric small-pox was by no means certain—in fact, hardly probable. And had it not been for the consequent cases, which could not be traced to any other source of infection, and the cases removed to the small-pox hospital, which had developed contemporaneously with the first case (Frederickson), it would have been impossible to definitely state the cause of death in this instance.

[1] Ziemssen, Cyclopædia, vol. ii., p. 354.
[2] Ibid, p. 387.

The discrepancies between the post-mortem appearances in this case, and those noted by such an accurate observer as Ponfick, are perhaps explained by the profound blood-change which the patient had undergone in the attack of erysipelas which preceded the variolous outbreak.

I would also call attention to the anomalous course followed by the other cases. The scarlatiniform rash, which was noted in most of the cases, seems to have been more frequently present than in previous epidemics here (that of 1872, for example). In Dr. Van Note's case this was so strongly marked as to lead to a primary diagnosis of scarlet fever. These cases show that the clinical history of small-pox is not in all cases so definite as to render the diagnosis easy. At the present day, when epidemics of small-pox are among the less frequent occurrences, and where they rarely reach any very wide-spread prevalence, it becomes especially important to pay close attention to such forms of the disease as are liable to be mistaken for other diseases, which are generally less serious in their consequences.

Another point of importance in connection with the case here reported, is the coexistence of two specific diseases in the same individual. Assuming the usual period of incubation of small-pox, the patient, Frederickson, must have been exposed to the infection about March 4. After that time he was attacked by erysipelas, and when the latter had disappeared, small-pox at once developed.

BALTIMORE, April 20, 1882.

IS TUBERCULOSIS A PARASITIC DISEASE?

BY GEORGE M. STERNBERG, M.D.,
SURGEON, U S.A.

IF the recently announced discovery by Koch of a bacillus of tuberculosis is fully confirmed by other competent observers, it will be admitted by all that we are indebted to the experimental method for a discovery of the highest importance to mankind, and that the labors of this ingenious and indefatigable country doctor have done more to establish medicine on a scientific foundation than have all the speculations of medical philosophers from the time of Hippocrates. The generalization, already made by many physicians in advance of satisfactory experimental evidence, that the infectious diseases are parasitic diseases due to the multiplication in the body of an infected individual—man or lower animal—of minute living organisms will no longer seem rash, even to the most conservative, if the truth of this discovery is confirmed.

The converse of this generalization, viz., that all parasitic diseases are infectious, is undoubtedly true, and if the time comes, as now seems probable, when we can say, with confidence, infectious diseases are parasitic, medicine will truly have established itself upon a scientific basis, and we may look for future triumphs in therapeutics corresponding with those already gained by preventive medicine, which is practically based upon a belief in the truth of this proposition.

That tuberculosis is an infectious disease is a truth that has been gradually dawning upon the medical mind, and which seems to be pretty well established independently of Koch's researches by the experiments of Villemin,[1] Tappeiner,[2] Cohnheim,[3] Toussaint,[4] and others, and by evidence of the kind which has been presented by Reich,[5] who traces tubercular meningitis in ten children, born of healthy parents during the years 1875 and 1876, to infection by a consumptive midwife, who was in the habit of kissing and fondling, to an unusual degree, the infants committed to her care.

No doubt numerous observers in various parts of the world are already engaged in a search for the bacillus of tuberculosis by the method which Koch has described, and we may look for very contradictory reports as to the results of such search. It must be remembered, however, that a negative result has but little value unless the method has been closely followed by one who has some experience in this line of investigation, and in the use of high powers. The fact that a discovery has been made—we shall assume that Koch's announcement is well founded until the contrary has been proved—by special methods of staining and cultivation in a field which so many others have explored in vain, shows how little importance can be attached to negative results as disproving the truth of the germ theory in any particular case, and how much depends upon experience and the perfection of methods in the prosecution of researches of this kind. Koch began this investigation as an *expert*, familiar from long practice with the technique of culture experiments and microscopical investigations with the highest powers. Probably no man living was better fitted by natural aptitude and past experience for carrying out an experimental research of this kind, and certainly very few would have been able to command as great confidence in the result announced in advance of confirmation by other observers. Still this confirmation is necessary in order to establish the discovery of Koch among the demonstrated truths of medical science. This is all the more essential, inasmuch as other observers, Klebs, Toussaint, have found in their experimental researches, organisms, *micrococci*, believed by them to be the agents of tuberculous infections, which differ morphologically from those—*bacilli*—described by Koch; and more especially because it has been demonstrated by repeated experiments that a disease closely resembling tuberculosis, if not identical with it, may be produced in animals by inoculation with a variety of organic products of non-tubercular origin, and even by the inhalation of inorganic particles. Thus, Brunet[6] inoculated seven rabbits with cancer, six with simple pus, and six with tuberculous matter. Of these, fourteen became

[1] Etudes sur la tuberculose, preuves rationelles expérimentales de sa specificité et de son inoculabilité. Paris, 1868.

[2] Eine neue Methode die Tuberculose zu erzeugen, Virchow, Archiv, 1878. Bd. 74, 393.

[3] Die Tuberculose vom Standpunkte der Infektionslehre. Leipzig, 1880.

[4] Sur la contagion de la tuberculose. C. R. Ac. des Sciences. t. xciii. p. 741.

[5] Die Tuberculose, eine Infektionskrankheit, Berlin. klin. Wochenschrift, 1878, p. 551.

[6] Sur la tuberculose expérimental, C. R. A. des Sciences, t. xciii. p. 447.

tuberculous, viz., six of those inoculated with cancer, three of those inoculated with pus, and five of those inoculated with tuberculous matter.

Shottelius[1] found that miliary nodules in the lungs resulted, in dogs, alike from the inhalation of the pulverized—spray—sputum of phthisis and of bronchitis.

Toussaint affirms that the tubercular deposits resulting from inoculation with non-tubercular material are not infectious, and that experimental pseudo-tuberculosis may be distinguished from tuberculosis proper by inoculation experiments, although the pathological anatomy of the two diseases is identical.

If we accept the view that the tubercular nodules are of inflammatory origin, we can readily understand how both living and non-living particles may give rise to local inflammatory processes, resulting in similar pathological products, and the infectious or non-infectious character of these products would then be explained by the presence or absence of living organisms, in accordance with the views of Burden-Sanderson,[2] who says, "*Whenever an inflammation becomes infectious, it owes that property to chemical change in the exudative liquid, of which the presence of microzymes is a necessary condition.*"

The weight of experimental evidence seems to the writer to favor the view that the specific properties of Koch's bacillus depend upon its ability to locate itself in certain situations, rather than in any power to produce a special kind of inflammation, giving rise to products having specific characters. If this is the case, we should expect that other organisms capable of locating themselves in the same situations would likewise give rise to tubercular neoplasms. In a recent communication to the French Academy of Sciences, we have evidence presented that such is the case.

M. Laulainé,[3] in a note presented by M. Bouley, on the 2d of January of the present year, makes the following statements:

The author had recently observed in the lungs of a dog the alterations produced by the eggs of a nematoid worm, the *strongylus vasorum* (Baillet), which possess great interest, because of their apparent identity with those of tuberculosis. These *strongyles* in the adult state live in the right ventricle and in the larger divisions of the pulmonary artery. Here they are massed together in balls of greater or less magnitude, which consist of individuals of both sexes. These masses are restrained from being washed away by the blood-current by anastomosing fibrous bands, which are developed as the result of an endarteritis, which is infallibly produced by the presence of the parasites. The fertilized eggs emitted by the females in these tangled masses in the central part of the circulation, are carried along by the current to the smallest arteries and capillaries, where they are arrested and where the embryos are born. These emigrate immediately to the smaller bronchial tubes. The lungs of dogs infested with this parasite are filled with fine gray granulations, the histological characters of which are described by the author as follows:

"The eggs and the embryos arrested in the smallest *arterioles* become the point of departure of a nodular arteritis, presenting in its structure all the characters assigned, since Köster, to the elementary follicles of tuberculosis. At the centre of each nodule is found an egg or an embryo enclosed in a giant cell, this is surrounded by a more or less abundant collection of *epithelioid* cells or by an exterior embryonic zone which tends frequently to become fibrous."

The author points out that this pseudo-tuberculosis affects especially the base of the pulmonary lobes, differing in this respect from true tuberculosis which is located by preference at the summit.

The present writer intends to repeat the experiments of Koch, if circumstances and the limited facilities now at his command enable him to do so, and if any results are attained worthy of record, proposes to communicate them in a second paper to which this will serve as an introduction.

[1] Experimentelle Untersuchungen über die Wirkung inhalirter Substanzen. Archiv. f. path. Anat. und Phys., lxxiii. p. 524.

[2] The Lumleian Lectures on Inflammation. British Medical Journal, April 15, 1882, p. 527.

[3] Sur une tuberculose parasitaire du chien et sur la pathogénie du follicule tuberculeux. C. R. Ac. des Sci., t. xciv. p. 49.

MEDICAL PROGRESS.

Ovariotomy in Berlin.—In a recent number of the *Berliner klin. Wochenschrift* Prof. Schroeder gives a brief summary of 300 cases of ovariotomy performed by him. His result as to mortality is this—seventeen deaths in the first hundred cases, eighteen in the second, and only seven in the third. This mortality of 7 per cent. in the last hundred, Prof. Schroeder proceeds to minimize further, by saying of three of the fatal cases that death was not due to ovariotomy *per se*. In one of these there were several uterine myomata, and he attributes the peritonitis which in this case carried off the patient, to the diminution in the blood-supply of these tumors caused by the ligatures. Two others died suddenly from heart-disease, on the eighth and fourteenth day respectively after the operation. One in the second hundred died on the eighth day from the same cause. Another case, in which a portion of the cyst had to be left behind, died in the sixth week. The three others died from septic peritonitis. No case in which the operation was simple ended fatally. With regard to this method of viewing the cases, although we admit that Prof. Schroeder is quite justified in taking the attitude he does, yet it is not the one best calculated to help forward science. An operator, in judging his own results, ought to accept no excuses. He should regard every death as due to his own fault—either directly, from some error in the operation or the after-treatment; or indirectly, from his not having foreseen the state of things which led to a fatal termination. He should, without mercy to his reputation, include all incomplete operations, or cases in which erroneous diagnosis led to failure. It is only thus that he will make his mistakes into warning lights, marking out the path of safety more precisely than before. These remarks, however, apply little to Prof. Schroeder himself; we make them for the sake of those who, we fear, may be tempted by his example to try and explain away their death-rates. As our readers will expect from his good results, Prof. Schroeder operates with all antiseptic precautions, including the spray. He thinks it would be to the advantage of patients if all these

operations were left in the hands of specialists, for it is only experience that can give fertility in resource when difficulties have to be overcome. He now thinks it possible to remove *any* ovarian tumor; and he mentions two cases in which at an early period in his career he opened the abdomen, but gave up the attempt to remove the tumor, and subsequently, when his experience was larger, again opened the abdomen and successfully extirpated the disease. Age he regards as no contra-indication; he has removed one tumor from a child of thirteen, and another patient left the hospital convalescent on the day before her eightieth birthday.—*Med. Times and Gaz.*, May 6, 1882.

PHYSIOLOGICAL ACTION OF BOLDO.—M. VERNE made a series of experiments on himself with boldo (the leaves of the *boldea fragrans*, or *peumus boldus*), and came to the following conclusions regarding its action (*Bull. Gén. de Thérap.*). The essential constituents of boldo, including boldine and some aromatic principles, are eliminated by the urine. Boldo does not influence the circulation, the temperature, or the quantity of urine secreted. It augments to a sensible degree the elimination of urea. The author thus places it alongside coca, the action of which on nutrition is similar. He notes also that he has frequently observed, both in himself and others, slight excitement during the first day that the medicine was taken; but this soon disappeared, and not uncommonly patients recovered sleep which they had previously lost through anæmia or some other cause which destroyed the equilibrium of the nervous system.—*Glasgow Med. Journ.*, May, 1882.

LUPUS ERYTHEMATOSUS.—DR. TH. VEIEL draws the following conclusions from his study of this subject:

1. Lupus erythematosus is an independent disease, and not a form of lupus vulgaris.

2. A connection between lupus erythematosus and scrofulosis, tuberculosis, and syphilis cannot be established.

3. The affection of the sebaceous or sweat-glands is an accidental accessory phenomenon. The essential nature of lupus erythematosus consists in the pathological alterations which are found along the course of the bloodvessels.

4. No remedy has as yet been discovered, the internal use of which produces a cure of lupus erythematosus.

5. The most efficient local remedy for lupus erythematosus is multiple scarification, in connection with subsequent cauterization with chloride of zinc.—*Arch. of Dermatology*, April, 1882.

THE INFLUENCE OF THE PNEUMOGASTRIC NERVE ON RESPIRATION.—ROSENTHAL has been devoting a great deal of attention to the innervation of the respiratory movements, and from some recent experiments (*Arch. f. Anat. u. Phys.*, 1882) concludes that:

1. Fibres are to be found in the vagus, probably arising in the lungs, whose irritation produces weaker and faster respiratory movements by acting on the respiratory centre; strong irritation of these fibres arrests respiration in inspiration. He calls these the "regulating fibres."

2. Fibres were also found in the superior laryngeal nerve, whose irritation slowed the respiratory movements and made them deeper, or by strong irritation entirely arrested them. He calls these the "respiratory inhibitory fibres."

3. Irritation of the inferior laryngeal nerves causes arrest of breathing in expiration. Since this effect can only be produced by strong irritation, and not in narcotized animals, or in those in whom the cerebrum has been removed, they cannot act in the same manner as the above-described inhibitory nerves, and are probably merely sensory fibres with only an indirect influence on the respiratory movements.

4. Large doses of chloral (0.3 gramme injected into a vein) prevents the action of the regulating fibres, but does not interfere with that of the inhibitory fibres.—*Centralb. f. d. Med Wissen.*, June 3, 1882.

CRICO-THYROID LARYNGOTOMY.—M. RICHELOT reports a case of laryngotomy performed by opening the crico-thyroid membrane as a preliminary to excision of the tongue and part of the lower jaw for extensive epithelioma, and believes that this method of opening the air passages is in adults less dangerous than tracheotomy, and has many advantages.—*L'Union Méd.*, June 1, 1882.

ATROPIA IN THE TREATMENT OF CORYZA.—DR. GENTILHOMME has used atropia, in doses of one-half a milligramme in pill form, in a number of cases of coryza, and think that it is extremely efficacious in both acute and chronic coryza, particularly at the close of an acute attack when associated with bronchitis.—*Union Méd. et Sci. du Nord Est*, May, 1882.

TREATMENT OF CHANCRE BY GLYCERINUM BORACIS.—DR. GEORGE THIN recommends the constant touching of chancres with glycerinum boracis, and reports three cases in which it appears to have produced good results.—*Lancet*, May 27, 1882.

EMBOLISM OF THE CORONARY ARTERIES.—DR. POPOFF (*Vratch*, 1882, No. 2) describes the following case of this rare affection. The patient, a sailor, aged 53½, had had an apoplectic attack about one and a half years previously, at which time aortic insufficiency had been recognized. One morning there suddenly appeared sickness and vomiting. When immediately seen by the author, the patient bore an appearance of extreme horror, and was sitting, being unable to lie down. His extremities were cold and covered with clammy perspiration; his lips were livid. Examination showed complete absence of the pulse in all accessible arteries, and neither apex-beat nor heart-sounds could be detected. The ear, applied to the cardiac region, could hear only a kind of cardiac tremor, which was very like the sound of a vibrating steel-plate. There was no loss of consciousness. Respiration was regular and rhythmical, not exceeding eighteen to twenty. Twenty hours after the first symptoms, the patient was dead. This affection was diagnosed during life, though the author had never before met any similar case in his practice. The alternative in diagnosis lay between embolism of a branch of a basilar artery, and embolism of the coronary arteries of the heart. Dr. Popoff accepted the latter alternative, on the ground (1) of the regularity and rhythmic character of the respiration; and (2) of the enfeeblement of the heart's action, which was transformed into simple oscillatory movements. Necropsy confirmed the diagnosis. There were found sclerosis of all the bloodvessels at the base of the brain; anæmia of the brain; venous congestion of the cranial bones and meninges; old apoplectic foci, in the stage of softening, in the right corpus striatum, and the posterior horn of the right lateral ventricle; pericarditis, endocarditis, and myocarditis; ossification of both coronary arteries of the heart, with complete thrombosis of their longitudinal branches; œdema of the lungs, and venous hyperæmia of the spleen, the liver, and the kidneys. The cardiac symptoms observed in the case are in strict harmony with the results of Samuelson's experiments on ligature of the coronary arteries in rabbits.—*London Med. Rec.*, May 15, 1882.

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HEAT-EXHAUSTION AND HEAT-STROKE.

AT the approach of Milton's "solstitial summer's heat," it behooves us to be prepared for the consequences of prolonged high temperature. By those who preserve tranquillity of mind and a healthy state of the bodily functions, summer's heat and winter's cold are alike faced with impunity. The regulating mechanism by which the temperature of the body is maintained at a uniform level, what changes soever may occur without, does not fail in the performance of its beneficent task. When, however, disturbing influences are introduced into the daily life, or the mechanism of heat production and heat elimination is disordered by disease, serious consequences ensue, and he can the better encounter them who has formulated in his mind well-defined principles of action.

A distinction of immense practical importance exists between *heat-exhaustion* and heat-stroke, or *coup de soleil.* It is much to be feared that this difference too often passes unregarded, to the serious detriment of the patient. Heat-exhaustion, as the term implies, means a sudden cerebral anæmia produced by work or muscular exercise in a high temperature. Heat-stroke, or sun-stroke, signifies the sudden access of unconsciousness with high febrile heat. In the former the body is cool, the skin moist, or wet with perspiration, the pulse small, feeble, and low in tension, the muscular system relaxed, the pupil dilated, and the mind feeble, but consciousness is not lost, or is restored after a syncopal state of brief duration. In the latter there is profound unconsciousness, contracted pupil, injected conjunctivæ, the skin is hot and usually dry, the temperature high or hyperpyrexial, the pulse rapid and its tension high, and the muscular system is often convulsed and tends rather to rigidity than relaxation.

Upon a due recognition of these antipodal states depends the success of the treatment instituted. If heat-exhaustion be treated by the measures proper in thermic fever, or *vice versa*, the result will be disastrous. It follows that a careful study of the conditions present, should precede any therapeutical measures. If the case be one of heat exhaustion, the patient will probably be able to swallow. Repose in the shade in the recumbent posture, and a few drops of laudanum in a tablespoonful of whiskey or brandy, will quickly bring about restoration.

The conditions are greatly more complicated when we have to deal with the unconsciousness of true sunstroke. Our readers need hardly be told that there are several varieties and grades of heat-fever. That there is a fulminant form in which paralysis of the heart ensues so suddenly that no therapeutical measures can be instituted, is a fact which invests the prodromes when they do occur with peculiar interest and importance. Usually, however, when the physician is summoned the character of the case is decided; the patient then lies unconscious and cyanosed, the breathing is shallow or stertorous, the muscular system is in a state of resolution and all the reflexes are abolished, and the temperature is above the danger line, somewhere from 105° to 110° Fahr. In a few cases, in addition to these symptoms, clonic convulsions, or epileptiform attacks, or tetanic rigidity of the muscular system occur.

As the mortality of heat-fever is great, its course rapid, and the measures of relief of uncertain value, prophylaxis assumes a high degree of importance. As those who have exhausted the nervous system by various excesses are the chief victims, obviously the great measure of prevention is sobriety. It is not alone alcoholic excess that predisposes to attacks. Venery, late hours, bad air, excessive tobacco-smoking, are amongst the depressing causes to which attacks of heat-fever have been attributed. Exposure to the direct rays of the sun is not alone necessary; to the existence of a high temperature of the atmosphere in general, and a disturbed state of the relations between heat production and heat elimination effected by the causes above mentioned, must the attacks be attributed, and hence the measures of prophylaxis must include the means of avoiding both sources of danger. Another pathogenetic factor, about which, however, differences of opinion may well exist, is the sudden ingestion of a large quantity of ice water. The extreme cold acting on the terminal filaments (end organs) of the pneumogastric nerve, may excite a sudden "restraint" and paralysis of the heart. There is, however, another

explanation of the sudden death which sometimes ensues after swallowing an enormous volume of water. The free perspiration has so diminished the quantity of water in the blood, that absorption becomes excessively rapid, and the red blood-globules are damaged and suddenly cease to functionate. If these factors exert an influence, as seems probable, it is, obviously, the part of wisdom for those working in a high temperature to drink water slowly and moderately.

In the case of true heat-stroke the victim should be at once removed to the shade, to as cool a spot as practicable, and should have cold water thrown on him, be rubbed with pieces of ice, and have ice applied to the head and spine. In the convulsive form of attack, the hypodermatic injection of morphia is indicated; indeed, no measure appears to have relieved a larger proportion of cases of all kinds. The administration of quinia by the subcutaneous method is, also, a remedy of great value for the reduction of the abnormal heat. It is probable that the subcutaneous injection of pilocarpine will prove very useful in cases with a dry skin and suspended action of the kidneys. The inhalation of chloroform has succeeded in the cases characterized by great restlessness, and by convulsions. The hypodermatic injection of chloral (ten grains to twenty grains), repeated as necessary, will also be found to lower the temperature and allay excitement, and, it may be, restore consciousness. We especially commend to our readers these new expedients, which promise so much utility in the treatment of a condition hitherto but little amenable to any therapeutical measures.

DROWNED OR POISONED?

EXPERTS are still puzzling Court and jury with the question of Jennie Cramer's mode of dying. In a recent issue we reviewed the subject of arsenical poisoning. As the signs and symptoms of drowning have been newly taken up by some experts for the defence and in rebuttal, it may be useful to call attention to the principal points connected with that topic.

Was Jennie Cramer dead when her body was deposited in the water? was she stunned by the shock of the fall in the sand? or did she die by drowning? Sufficient arsenic to kill was found in the body, and in such a state of diffusion as to warrant the inference that this poison had been taken in solution, and for a short time previous to death. The absence of inflammation of the stomach was held to be one of those exceptional cases, but not uncommon, in which the force of the poison was expended on the nervous system.

Some sand was found in the gullet, but none in the stomach, and no sea-water in the stomach or lungs. This negative fact was held by the prosecution to destroy the theory of death by drowning. The presence of sand in the fauces was explained by the fall of the body in shallow water, the face being projected in the ground. Prof. Harris, of Harvard College, summoned for the defence, maintained that the presence of water in the lungs and stomach was not necessary, but that the half pint of reddish fluid found in the pleural cavities, and the dusky hue of the countenance, were conclusive of death by drowning. The reddish fluid, he maintained, was water which had percolated through the lungs, and that no water was found in the stomach was due to the fact that Jennie Cramer, in precipitating herself into the shallow water at Savin Rock, was stunned. Against Prof. Harris, of Harvard, was summoned Dr. Wooster Beach, Deputy Coroner of New York. Whilst Dr. Harris had inquired into 140 cases of drowning, and had made autopsies in 40 of them, Dr. Beach had examined 850 cases of drowning, and had made autopsies of 50 to 75. Justified by so large an experience, Dr. Beach was disposed to speak by authority. He finds the presence of water in the lungs and stomach necessary in cases of drowning, and has but little confidence in the value of a reddish fluid in the pleural cavity as a sign, since this is so often present in death from any cause, if decomposition has begun.

The Boston and New York experts were thus placed in direct antagonism. To those unacquainted with the nature of such observations, an opposition of opinions is an indication of the insincerity of expert testimony, and of the uncertainties of medical science, whereas the fact is, that both experts were correct in their expressions of opinion. The opposition is apparent, and due to the mode in which such testimony is brought out by the prosecution and by the defence. No case could better exhibit the mechanism by which experts are made to differ. Both sets of facts may be true of cases of drowning, and hence in any special instance the associated circumstances possess a high degree of value. The attorneys for the prosecution on the one hand, and for the defence on the other, use experts to develop the facts necessary to their own side. Hence in this case, whilst the prosecution wished to show that Jennie Cramer was poisoned by arsenic, and her body afterwards thrown into the water, the defence were equally interested to prove death by drowning. The appearances were not characteristic, and hence the opportunity afforded counsel to develop contradictions which are merely apparent, and which are readily reconciled. If the object of the investigation were to ascertain the truth, an expert selected by the Court could state the positive and negative facts bearing on the theory of drowning.

It is fortunate that the medical profession has been well represented. The gentlemen appearing on both sides have exhibited an intimate acquaintance with the subjects on which they testified. That they appear in an aspect of antagonism is not a reflection on them, or on medical science, but is due simply to the fact that the case presents many points of obscurity, and is in no respect typical, whence it follows that negative evidence approaches the positive in value.

THE CHLOROFORM DISCUSSION IN THE PARIS ACADEMY OF MEDICINE.

For some weeks past the Académie de Médecine of Paris has been discussing the dangers of chloroform and the mode of avoiding them. As a ghastly commentary on the debate, during its very continuance, and in France alone, three cases of death from chloroform were published, the relation of one of which appropriately closed the discussion: A man aged thirty-one, in perfect bodily health, but who suffered from an intractable sciatica. Dujardin Beaumetz stretched the nerve by forced extension of the leg. The chloroform was pure, was given on a simple compress, and intermittently, and yet before 3ijss had been inhaled he suddenly died, and neither the reversed vertical position, artificial respiration, electricity, nor tracheotomy, was of the slightest avail.

The reply of Gosselin, that the more such accidents multiply the more necessary it is to establish precise rules for the administration of the anæsthetic, is surely not enough. The more such accidents multiply the more diligently should the search for a *safer anæsthetic* be the object before us. As M. Rochart well said, the only question during the discussion had been that of death—death by asphyxia, death by syncope, death by intoxication, death in the first period, death in the second, "partout et toujours la mort;" and Le Fort reported that he had himself statistics of two hundred and fifty deaths from its use.

Ether seems scarcely to have had a champion. True, Vulpian said it was used in the laboratory and on animals because of its greater safety, and Panas recommended its use in the profoundly anæmic. But no one seems seriously or vigorously to have asserted its claims as the safest and, therefore, the best anæsthetic. Clearly Japan is not the only country that needs a medical missionary.

THE PENNSYLVANIA COMMISSION TO INQUIRE INTO THE LUNACY LAWS.

We are very glad to see that Governor Hoyt has appointed Dr. Jos. A. Reed, of Pittsburg, Gen. Hartranft, Messrs. Richard C. McMurtrie, George L. Harrison, and L. Clarke Davis, and Drs. S. Weir Mitchell and J. T. Rothrock, a Commission to inquire into the lunacy laws of this State, and to report in time for their recommendations to be embodied in his message to the Legislature at their session during the coming winter.

The *personnel* of the Commission could not be better. Of the medical men we need not say a word; their names are a sufficient guarantee that good judgment, independence, and experience will mark all their recommendations. Law finds one of its foremost representatives in Mr. McMurtrie; Mr. Harrison, so long connected with the Board of Public Charities, will bring a large experience to the work; Gen. Hartranft will represent the political side of the question, if such there be; and Mr. Davis well represents the press.

We trust that the Commission will make some of the radical changes already alluded to in the columns of The News. Especially as to the commitment of the insane, whether in public or private asylums, the blanks should be far more specific, and the qualifications of the certifying physicians should be clearly defined. We trust also that they will provide for frequent and thorough inspection, especially of private hospitals, by regularly appointed and well qualified Commissioners in Lunacy, after the English model.

MEMORIAL CHAIRS IN OUR MEDICAL COLLEGES.

We are very glad to see movements in both the University of Pennsylvania and the Jefferson Medical College to endow memorial chairs, as is so commonly done in the literary and theological departments of our colleges. In the former, as was seen by the circular we published last week, it is proposed to raise $100,000, the income of which shall be paid to Prof. Joseph Leidy during his life-time, and at his death it shall be devoted to the maintenance of the Joseph Leidy Professorship of Anatomy. In the latter it is proposed to raise $50,000 to endow the S. D. Gross Professorship of Pathological Anatomy. It is eminently fitting that two of our most distinguished medical men should be so honored. Modesty and merit both claim such recognition for them. It is an example to be followed in many other cases. John Rhea Barton is the only medical name at present so commemorated in this city. Why should not the memory of such an eminent surgeon as the late James R. Wood be so perpetuated; or, in time to come, the representative of Boston surgery, who, to the regret of the whole profession, has lately resigned his chair, and many others, in various medical centres, whose names are indissolubly connected with their chosen chairs of teaching?

Might not some of our rich men—yet so modest that they would not even wish their own names to

be attached to a chair—find in this proposal a mode of solving the difficulty, and at the same time of honoring men dear to science; rich in ideas, rather than in shekels.

GUITEAU—FINIS.

PUBLIC and professional interest is attracted anew to the subject of Guiteau's mental condition by the final appeal to the President which has just been made in his behalf. The late efforts of some eminent New York psychiatrists and neurologists have been not without effect. Any change of opinion wrought by them is, however, limited to the small number of specialists, medico-legal experts, and humanitarians, who subscribe to the doctrine of moral insanity, and who are, therefore, brought to recognize the existence of that form of mental disorder of which Guiteau furnishes an excellent example. Without questioning the justice or the propriety of the position, we may, at least, appeal from the conclusion to which a too partial adherence to their views conducts them.

We believe that a true conception of right and wrong, and a just appreciation of the consequences which must follow from pursuing the wrong, should be the test of legal responsibility. Such is the view of the legal profession. The class of alienists above referred to have, however, followed their opinions to their logical conclusions, and have held, and do now hold, the irresponsibility of the subjects affected by the so-called moral insanity.

Although abstractly regarded, their position is correct, there are so many practical obstacles to the application of this view that the safety of society, we are firmly convinced, requires us to adopt the legal view of criminal responsibility. The loose way in which the criminal insane are held in confinement, the liberty accorded to so many dangerous lunatics, and the ease with which a man with means may free himself from asylum restraint, render the application of the doctrine of moral insanity, as held by some alienists, in a high degree injurious to the public. The safety and happiness of the people are far more important than the mere restraint for life, or than the death of an occasional lunatic who is conscious of the nature of his crimes, although influenced to their perpetration by some form of delusion. Humanitarian considerations and an obstinate adherence to views which seem to be a logical outcome of theoretical opinions, ought to yield to the far higher claims of society for protection against an enemy whose existence operates as a constant menace to the happiness and well-being of any one who may happen to cross his path. Guiteau suffers the penalty for a crime of whose nature and consequences he was fully aware.

IS IT TRUE?

IN an advertising announcement of a book on opium-smoking in America and China (mark the association), we find the following startling statement:—

"It is estimated that there are at least six thousand men and women who are slaves to this vice. It is daily spreading with frightful rapidity, and bids fair to outrival every other form of the opium habit."

To give emphasis to this alarming declaration, the publishers' advertisement is embellished with a sensational cut entitled a "Group of American Opium Smokers." They are represented in impossible attitudes—a woman in the act of taking a pipe from a man engaged in lighting the already filled bowl, reversing the garden of Eden scene, in which the woman tempts the man. Barring the unseemly character of the advertisement, we may, at least, be permitted to ask the question, is this true? Is it true that so many Americans—we do not mean Chinese in America—are now addicted to this vice? Is it true that this opium-smoking is "spreading with frightful rapidity?" The Messrs. Putnam declare it formally, and over their own signature. Without presuming to question their truthfulness, we may at least inquire, where is the evidence? Who has collected the statistics?

THE reporters, eager to impart an interest to their communications, do not spare the experts who are so unfortunate as to testify on the Malley trial. In the report for June 22d, we find that Dr. Pliny A. Jewett is entitled "the Jumbo of New Haven therapeutics."

It is also stated that Dr. Jewett, and Dr. Beach, of New York, "listened to the Harvard Professor with corrosive interest," and that the "Yale Professors were out in force, awaiting an opportunity to trip the gentleman from Harvard."

In this, and many other ways, medical experts are belittled, and their science made to appear false or unsettled.

PROF. HARRIS, of Harvard College, has, it appears, written several plays, which have been successful. The District Attorney used this fact to disparage his professional acquirements.

Mr. Doolittle (insultingly).—"You have written plays which were produced on the stage?"

Dr. Harris.—"I have."

Mr. Doolittle.—"That's all."

Nothing more was necessary to give the jury an unfavorable impression of Dr. Harris. Experts should govern themselves accordingly.

SOCIETY PROCEEDINGS.

AMERICAN NEUROLOGICAL ASSOCIATION.

Eighth Annual Meeting, held at New York, June 21, 22, and 23, 1882.

(Specially reported for THE MEDICAL NEWS.)

JUNE 21ST. AFTERNOON SESSION.—The American Neurological Association convened in the Hall of the New York Academy of Medicine, June 21, 1882. In the absence of the retiring President, Dr. Roberts Bartholow, the Secretary, Dr. Seguin, called the Association to order at 2.30 P.M., and introduced the President-elect, Dr. William A. Hammond, of New York.

DR. HAMMOND thanked the Association for the honor conferred upon him by electing him to the presidency. He thought the Association had great cause for congratulation for the work it had already done, in view of the indifference of many and the hostility of a few. Nowhere in the world was neurological science better cultivated than in this country, and he thought the Association had no reason to feel ashamed of the part it had taken in it. There was one point which he wished to call attention to, namely, the formation of local neurological societies throughout the country. These would be a great stimulus to special work and would serve as feeders to the Association.

The reading of the minutes of the last meeting being called for, it was moved by Dr. McBride that, as they had been printed and sent to each member for perusal, their reading should be dispensed with. Carried.

THE SECRETARY, DR. SEGUIN, reported that he had received a letter from Dr. Bartholow, expressing his regrets at not being able to be present. He also reported the receipt of several pamphlets and monographs from Dr. M. Bernhardt, associate member of the Association.

ELECTION OF OFFICERS.

The following officers were duly elected:

President.—R. T. Edes, M.D., of Boston.

Vice-President.—Dr. W. J. Morton, of New York.

Secretary and Treasurer.—Dr. E. C. Seguin, of New York.

Members of Council.—Dr. F. T. Miles, of Baltimore, and Dr. J. C. Shaw, of Brooklyn.

MISCELLANEOUS BUSINESS.

Dr. R. W. Amidon moved that the selection of the place for the next annual meeting be left to the discretion of the Council. Carried.

Upon motion of Dr. Shaw, Dr. Jewell's amendment to the constitution, viz.: "That all active members of the Association who shall remove from within the limits of the United States shall hereby become associate members should they so desire," was carried.

Dr. Seguin reported that only one essay had been handed in for the Hammond prize of five hundred dollars for the best account of the functions of the thalamus opticus, and that this essay was not considered of sufficient worth to merit the prize.

DR. HAMMOND announced that he would very gladly renew his offer for another year, and, if at the end of that time the prize was not awarded, he would pay it to the Association, with the understanding that it should form the basis of a fund to promote original investigation.

The first paper was by DR. R. W. AMIDON, of New York, entitled

THE MYOGRAPHY OF NERVE DEGENERATION IN ANIMALS AND IN MAN.

As a sphygmogram is a pulse-tracing, so a myogram is a muscle-tracing. By means of a mechanism, which was described, a muscle by its contraction moves a lever which makes a mark on the smoked paper of a revolving cylinder. It writes indelibly on paper the following facts: Quickness of muscular contraction and relaxation, amplitude of the muscular movement, and by means of some accessory apparatus, the quickness of contraction after the application of stimuli, and the effect of a continuance or a withdrawal of the same. Dr. Amidon first experimented upon healthy frogs, and afterwards upon those in whom the brain and spinal cord had been broken up to stop voluntary and reflex movements. The myographic studies undertaken in man were chiefly in cases of nerve injury or diseases which cause nerve degeneration and muscular atrophy. Dr. Amidon asserted that a careful perusal of the explanatory text which accompanied the plates exhibited, and a comparison of the different tracings among them, would reveal the following facts:

First, the identity as to form and relation of human and frog myograms in health.

Secondly, the great similarity of the pathological myograms in frogs and man.

Thirdly, the marked myographic changes where slight trophic disturbances affect human muscles.

Fourthly, the profound alterations in contour of myograms of muscles for a long time severed from the vitalizing power of their nerve centres.

DR. W. J. MORTON inquired if the author of the paper took into consideration the polar differences of the induced current.

DR. AMIDON replied that he did not think there were any polar differences.

DR. ROCKWELL asserted that the positive pole had a greater influence over the uterus than the negative pole, and that there must be a difference which ought to be taken into account in such delicate experiments as those alluded to in the paper.

The next paper was by DR. GEORGE M. BEARD, of New York, upon

THE SYMPTOMS OF SANITY AND THE DIAGNOSIS OF INSANITY.

DR. BEARD stated that the object of his paper was two-fold; *first*, to show what a sane man was. The normal retina, ear-drum, throat, and the normal condition of the parts of the body in general, have long been studied in order to enable us to know when disease attacks the body, but no one has studied the normal mind in such a way as to contrast it with an insane mind. The *second* object of his paper was to reconstruct the subject of insanity on the basis of evolution; to carry evolution into psychology. The law of evolution is the highest generalization the human mind has ever reached, and it is greater than gravity, and is revolutionizing the science of medicine. It originated, in its modern phase, in the brain of Herder, was developed by Goethe, and more recently still by Herbert Spencer, and Darwin, who has passed away. Dr. Beard said the *symptoms of sanity* were as follows: *first*, activity of the instinct of self-preservation; *second*, adaptation to environment; *third*, correspondence of character to age and station; *fourth*, rememberable consciousness. He who responds to all these tests is a sane man, no matter how sick he may be in body or mind. He who does not respond to these tests is an insane man, no matter how well he may be in body. Insanity is a disease in which mental responsibility is seriously impaired. There can be no insanity with perfect responsibility. The very essence of insanity is irresponsibility. Dr. Beard exhibited a diagram based upon evolution. It represented the most important nervous diseases in the form of a tree, each disease being a branch; one side being devoted to physical, the other to mental, diseases. On the

mental side were trance, hypochondria, mental hysteria, hystero-epilepsy, and insanity. On the physical side were chorea, neuralgia, neurasthenia, physical hysteria, epilepsy, and paralysis, beginning at the bottom and going to the top of the tree. Dr. Beard said that when mental disease attacked a person the symptoms began from above downward. The symptoms of *insanity* appeared in the following order, the later acquisitions first disappearing and then the earlier. There is, *first*, a decline in the manners, that is, minor morals, and then more extensive moral decline. *Second*, the power of originating thought. *Third*, the power of acquiring thought. *Fourth*, decline in memory of recent events. *Fifth*, decline in the memory of old events. There can be no insanity without moral decline. When a worm gnaws at the roots of a tree it is the blossoms that first begin to fade. When insanity attacks a mind it is the minor morals that are first destroyed. When an insane man wishes to kill, the chances are twenty-five to one he will kill himself; next to himself he will kill some relative or friend whom he dearly loves, as a wife or child. The third temptation is to kill some public character, any one who happens to be prominently before the public and excites the emotional nature. When any person without a confederate kills or attempts to kill the President of the United States or the Queen of England, the presumption is, a thousand to one, that he is crazy. Dr. Beard then went on to give, by means of his four tests of *sanity*, the differential diagnosis between fanaticism and insanity; between genius and insanity; between vice and insanity.

DR. J. J. PUTNAM, of Boston, read a paper entitled

CONTRIBUTIONS TO THE STUDY OF CENTRAL MYELITIS.

The paper consisted of a carefully written history of a hospital patient, together with an account of the post-mortem appearances. The history of the case illustrated that it was possible for such a patient to improve to a considerable extent, while at the same time there was an advance of the lesion. The case afforded an opportunity of referring to Dr. Ross's views, who thinks that the spinal cord should be divided into fundamental and accessory portions.

DR. MILES remarked that in cases of multiple neuritis the diagnosis is made upon loss of faradic contractility, non-implication of bladder and rectum retention, and loss of ankle clonus and tendon reflex. It was true that tendon reflexes were lost in poliomyelitis anterior, but here we should not expect pain.

DR. PUTNAM said that it was just this point which puzzled him. He was struck with the prominent symptom pain in the cases of poliomyelitis collected by Dr. Seguin. He thought it remained for future investigation to determine whether the peripheral nerves were first involved, and the affection of the anterior cornua was secondary to that. He had made no record of the faradic reaction.

DR. BEARD inquired if the observations were not in harmony with Dr. Ross's views.

DR. PUTNAM was not prepared to answer this question.

DR. WEBBER thought that the case reported supported Dr. Ross's views to a very considerable extent.

DR. E. C. SEGUIN, of New York, next reported a *Case of Injury to the Motor Area of the Brain.*

JUNE 21ST.—EVENING SESSION.

THE PRESIDENT, Dr. Hammond, called the Association to order at 8.30 P.M.

Dr. Miles was requested to take the Chair while DR. HAMMOND read the following paper

ON THE SO-CALLED FAMILY OR HEREDITARY FORM OF LOCOMOTOR ATAXIA.

Twenty years ago, when doubt existed relative to the seat and nature of the lesion constituting the disease now generally known as locomotor ataxia, Friedreich, of Heidelberg, published an elaborate essay, of which the title, "On Degenerative Atrophy of the Posterior Columns of the Spinal Cord," indicated the view which he entertained of the morbid anatomy. All writers had, so far as Dr. Hammond knew, accepted without question, Friedreich's view of their character, while no one had thought it worth their while to study them in the light of our present knowledge. No neurologist of the present day, after a full consideration of these cases, would regard them as instances of locomotor ataxia. In every one of Friedreich's cases the first symptom observed was weakness of the lower extremity, which gradually extended so as to involve the upper extremities. We find also that in no single case at any period of its course was there the slightest loss of cutaneous or muscular sensibility. In no case was there any derangement of the excretion of urine. Dr. Hammond thought that when, as in Friedreich's cases, the lancinating pains are not invariably met with, in fact, being very rare, when there is no swaying of the body on closure of the eyes, when the inevitable result is that the morbid process extends upwards, that the speech becomes affected, that the pupils are always equal, not contracted, and reacting perfectly to light, we have an *ensemble* of symptoms which are absolutely incompatible with the idea of primary degeneration in any part of the posterior columns of the cord.

Dr. Hammond reported in full the histories of twelve cases similar to those of Friedreich's which had come under his own observation. These examples of the disease all occurred in children. All were healthy up to the time of the appearance of the paralysis. Parents usually healthy. The disease begins with weakness in the lower extremities and then gradually advances upward with nearly complete freedom from pain. In all the speech was involved in a peculiar manner. The pupils were equal in size and normal in reaction. The gait of these children was altogether different from that of ataxics. Instead of the feet being put down with a jerk and in two distinct movements, they were moved exactly like those of a drunken man when he attempts to walk. For these reasons Dr. Hammond could not consider the cases in question to be instances of locomotor ataxia or sclerosis of the columns of Burdach. These columns might in some cases be affected, but in such it was clearly a secondary phenomenon.

In the absence of sufficient post-mortem evidence, Dr. Hammond hesitated to assign a locality to the lesion which constitutes the pathological entity of the cases to which he had referred. He was inclined to think, however, that its primary seat is the medulla oblongata. This opinion was based on a careful consideration of the symptoms.

DR. SEGUIN had seen at least a dozen cases of this kind of which he had notes. They had occurred in families, varying from one to three. He had always considered Friedreich's cases as examples of disseminated sclerosis of the spinal cord. The same was true of Carre's case. Nystagmus, imperfection of speech, ataxia and yet absence of pains, anæsthesia and the peculiar iris symptom which we expect in post-spinal sclerosis, were characteristic symptoms of these cases.

DRS. ROCKWELL and MORTON called to mind similar cases to those reported by Dr. Hammond.

DR. HAMMOND said the objection to considering these as cases of disseminated sclerosis was that tremor was absent upon attempting voluntary motion.

Dr. H. M. Bannister, of Chicago, read a

NOTE ON BROMIDE MANIA, AND THE SUPPOSED COMPENSATORY ACTION OF EPILEPTIC ATTACKS.

Dr. Bannister referred to the fact that Dr. Stark had committed himself to the view that the maniacal excitement was due to the suppression of the fits rather than to the bromide. On the other hand, Dr. Hammond had noticed cases, which, not being epileptics, could not be accounted for on the theory of Dr. Stark. He then gave the history of the case in which the fits were suppressed by bromide with the result of producing maniacal excitement, which subsided at the discontinuance of the medicine. It was found that the attacks could be completely controlled, and the general condition of the patient much improved by the administration of a one per cent. solution of nitro-glycerine. He thought the case conclusive so far as one case could be.

Dr. Mills considered it a very important matter in discussing this question to clearly distinguish cases of hystero-epilepsy from those of epilepsy in regard to the action of bromide. There was a status hystero-epilepsy as well as an epileptic status. Bromides acted badly in hystero-epilepsy. With reference to the occurrence of mental disturbances in epileptics by the use of bromide, Dr. Mills spoke of three distinct conditions, namely, a pre-paroxysmal condition, a post-paroxysmal condition, and the substitution of the epileptic attack by a maniacal attack. Only in a very few instances had he seen bad effects from the use of this remedy.

Dr. Bannister said there was no suspicion of hystero-epilepsy in the case reported.

Dr. E. C. Seguin read a paper entitled

A CONTRIBUTION TO THE CLINICAL STUDY OF ARSENICAL MYELITIS.

The three cases reported were rare sequels of Paris-green poisoning. A summary statement of them may be made to the effect that they all presented evidences of slight sub-acute diffuse myelitis, more distributed in the anterior cornua. In case I., the symptoms were more purely those of poliomyelitis. In all cases, the symptoms of myelitis followed within a week after the ingestion of the poison. Whether the myelitis was caused by the direct action of the arsenite of copper upon the spinal cord, or whether it arose as a result of irritation of the nerves of the stomach and intestines, was the important question which he wished discussed by the Association.

Dr. Hammond inquired if the poisoning was due to the copper or the arsenic.

Dr. Seguin's impression was that the effects reported were those of arsenic.

Dr. Amidon thought the cases reported were very similar to those of spinal-cord paralysis following diphtheria, and it had always seemed to him that their pathology must be somewhat similar.

Dr. Seguin remarked that most of his cases of diphtheritic paralysis had shown a toxic stage previous to the paralytic stage.

Dr. Miles saw no reason why the cases reported should not be looked upon as examples of general diffuse neuritis.

Dr. Seguin thought that the irritation of the nerves of the mucous membrane might have led to the production of myelitis in a similar manner to its production by cold after exposure.

Dr. Hammond stated that eighteen months ago he had a case similar to those reported by Dr. Seguin, in which the poisoning was clearly due to copper: the ammonio-sulphate was prescribed, with directions to take one-twelfth of a grain; instead of taking the number of drops ordered, the patient took an equal number of teaspoonfuls. Paralysis of all the muscles, except those of respiration, followed, and continued for seventy-two or eighty hours, when their functions were gradually regained.

Dr. W. J. Morton, of New York, read the next paper, entitled

MECHANICAL VIBRATION FOR THE RELIEF OF PAIN—A NEW PERCUTEUR.

Next to the anæsthetics and narcotics, counter-irritation has long held a prominent place in the treatment of pain. The general law which governs the relief of pain by counter-irritation remained unformulated until within a year, when M. Brown-Séquard, after careful experimentation, announced the general principle that general and local anæsthesia could be produced in the lower animals by applying to the peripheral nerve distribution a strong counter-irritant, and that this anæsthesia was explicable on the theory of inhibitory action. Within a few years delicate methods of affecting the sensitive peripheral network of nerves have been brought forward under the general term, æsthesiogenic agents. This work has emanated from the clinic of Professor Charcot, and has been elucidated mainly by Dr. Vigauraux. Hypothetically, all forms of force display themselves in vibrations; heat, light, sound. Nerve force, whatever its nature, is probably vibratile. There is a form of vibration which is communicated directly from the vibrating agency to the part to be treated. This may properly be called mechanical vibration, and it was that to which Dr. Morton wished particularly to call attention. To Dr. Mortimer Granville, of London, is due priority of treatment by this method.

Dr. Morton exhibited a new percuteur, in the construction of which he aimed at a mechanism which would have a more powerful stroke than Granville's clock-work percuteur and the dental hammer, and at the same time give less trouble than the tuning-fork percuteur, which required the use of a small galvanic battery. His instrument involves the idea of applying the vibrating rod directly to revolving hammers actuated by a crank movement.

Granville's hypothesis of the action of percuteurs is that sharp pains are represented by very rapid vibrations, and that "boring" and "grinding" pains are represented by comparatively slow vibrations. Consequently in order to break up either one or the other forms of pain, it is necessary "to set up a new set of vibrations, which shall interrupt or change the morbid set by introducing discord."

June 22d.—Afternoon Session.

Dr. James J. Putnam, of Boston, exhibited two instruments. The first was a little *microtome*, to be held in the hand and used for the purpose of making sections of the spinal cord. The instrument avoided the necessity of imbedding the specimen. The second instrument was a modification of Pond's *sphygmograph*, the main advantage of which was that it provided the means of regulating the pressure on the pulse.

Dr. S. G. Webber, of Boston, read a paper

ON LEAD-PARALYSIS,

which was limited to a brief review of the theories of the pathogenesis of lead-paralysis, and secondly, to calling attention to some unusual forms in which lead-poisoning may show itself, simulating more serious lesions. There are two views now most prevalent in regard to the seat of the lesion in lead-paralysis. Some authors consider the central nervous system, the spinal cord and brain, to be the part primarily affected. Another view is that the primary seat of disease is in the nerves. The evidence brought forward by some

observers would seem to be conclusive that the paralysis does not depend upon a central lesion; but objection has been raised that it requires only a very limited lesion in the cord to give rise to the symptoms observed, and it is said that the examinations have not been complete.

Dr. Webber asserted that as yet we have no proof that the higher centres, as the brain or cord, can cause lesion of different parts of the nervous system, as cord or nerve, without a continuous track of degenerated tissue intervening. He thought, however, that in lead-paralysis the mass of evidence derived from pathological anatomy would show that the disease is primarily a neuritis, unless the origin by separate and independent centres is accepted as the true explanation. The fact that many cases of lead-paralysis recover is also in favor of the peripheral rather than the central origin of the disease. Another fact which he considered important in furtherance of this idea was that in every case in which he had questioned the patient there had been pain, more or less severe, or soreness, or a tingling sensation preceding the motor disturbances. Dr. Webber desired to emphasize the peculiarity that in cases of lead-poisoning there were symptoms present resembling those of myelitis. He thought it very important to examine the urine for lead after the administration of iodide of potassium.

DR. PUTNAM remarked that he had seen two cases of lead-paralysis that would never have been considered as such, one resembling lateral sclerosis and the other myelitis exanæmia.

DR. SEGUIN mentioned a case of lead-paralysis in which the symptoms were indentical with poliomyelitis. Lead was found in the urine. This was one of a number of cases in which he would defy any neurologist to make a diagnosis between poliomyelitis and lead-paralysis.

DR. BIRDSALL thought that when we consider how often this disease does not assume a serious form it would not be improbable that changes existed in the cord which were not sufficient to produce impairment. As to the electrical reactions, he had found them present to a very limited extent. The true reversal of the galvanic reaction formula is not as frequent as in myelitis of the anterior horns. He thought that in a certain number of cases there would be found present functional impairment without discoverable lesion of the spinal cord.

DR. V. P. GIBNEY testified to having frequently observed severe pain in poliomyelitis anterior. He had seen many such cases.

DR. HAMMOND remarked that he had long entertained the opinion that the original lesion was central, but much experience had convinced him that the original lesion was in the nerves. The paralysis affects those parts to which the poison is directly applied.

DR. EDES thought that the poison usually entered the system through the lungs or alimentary canal, and that the paralysis showed itself in the muscles which we use the most.

DR. CHARLES K. MILLS, of Philadelphia, read a paper entitled

CLINICAL NOTES ON TWELVE CASES OF BRAIN TUMOR, CHIEFLY WITH REFERENCE TO DIAGNOSIS.

The notes presented were on twelve cases of intracranial tumor in which the clinical examination and the autopsies had been made by Dr. Mills. They were arranged in tabular form, in one column giving a very much condensed clinical history and in another the gross post-mortem appearances and the results of microscopical examination. The facts thus tabulated were then summarized and conclusions drawn.

Headache usually described as present, pain of considerable severity with exacerbations of great violence. In several instances the patients complained of the pain being greatest in the region of the head nearest the seat of the growth. Percussion of the head elicited or intensified pain in the cranial region beneath which the lesion was localized. Vomiting was a symptom in eight of the twelve cases. In a case of tumor of the cerebellum, so located as to cause irritation of the floor of the fourth ventricle, vomiting was persistent. In most of the cases the vomiting was ascribed to irritation of the nerves of the cerebral membranes, the observer agreeing with Ferrier with reference to this point. Vertigo was noticed in ten cases, most marked in two cases of cerebellar tumor. Dr. Mills believed that the general diagnosis of the existence of intracranial tumors could be made with greater certainty than that of any other serious encephalic disease.

DR. PUTNAM inquired if the author of the paper distinguished sharply between choked disk and neuritis.

DR. ROCKWELL mentioned a case of a patient who first suffered from hysterical attacks followed by epileptiform attacks. Headache was present from the beginning, and finally became excruciating in character. The symptoms were such as to lead him to the suspicion of brain tumor, but upon post-mortem examination no such lesion was found, there being present only cloudiness of the arachnoid.

DR. MILLS considered it important in the diagnosis of brain tumor that their character be taken into consideration, that is, whether in their growth tissue was destroyed or the parts pushed aside; whether it was a destructive or pressure lesion.

DR. SEGUIN expressed his pleasure of the views entertained by the author of the paper in regard to localization of brain tumors. Though pain was present in many cases, it had so happened that in most of the well-defined cases of sarcoma that had come under his observation there was no headache. In only one case of cerebral tumor had he observed choked disk. All of his cases of basal tumor had choked disks. In one case of sarcoma within the medulla oblongata, choked disk was present.

DR. MILLS, in reply to the first question asked, would say that, in his opinion, we have, according to the position and character of the tumor, choked disk, either from its mechanical cause, or from the seat of the lesion. He was inclined to favor the so-called lymph-space theory in regard to the production of choked disk.

A CASE OF POST-PARALYTIC CHOREA, WITH REMARKS ON THE TREATMENT OF CHOREIC SYMPTOMS IN GENERAL.

DR A. D. ROCKWELL, of New York, read a paper with the above title. The case reported was one of long standing. The patient could not carry a glass of water to his mouth without spilling. The speech was somewhat affected, and the right pupil dilated. The treatment in this severe and unpromising case was threefold. First, ether spray to the spine; second, fluid extract of conium internally; third, central galvanization. Under these influences, the boy immediately and steadily improved, and in ten weeks was discharged cured. The reader was inclined to regard the ether spray in these chronic cases as of but little value. Conium he had more confidence in. In regard to the value of electrical applications, Dr. Rockwell's views were the same now as he had expressed a dozen years ago, and, with his added experience, he claimed the same position for it in its relation to this disease as at that time.

DR. MORTON had tried strychnia, arsenic, and electricity in the treatment of chorea, and had become satisfied that any severe treatment would cure. The same good effects which Dr. Rockwell had obtained from the administration of conium, he would expect

from other remedies administered in large doses. He thought the principle of treatment in chorea was one of surprise.

DR. EDES considered the dose of conium as put down in the books absurdly small. He thought no effects could be expected from five-minim doses. He commenced with fifteen-minim doses, which were increased until the physiological effects were produced.

DR. SEGUIN testified to giving conium in teaspoonful doses, using Squibb's fluid extract. He gave from ten to fifteen minims at the first dose.

DR. HAMMOND gave from fifteen- to thirty-minim doses to children five and ten years of age; to adults he had given sixty-minim doses.

DR. ROCKWELL stated that he commenced with five-drop doses, and, if necessary, increased to twenty-five. The cases of chorea recorded by him were of long standing.

DR. GRAEME M. HAMMOND reported

A CASE OF ATHETOSIS CURED BY NERVE-STRETCHING.

The results of nerve-stretching in spinal and cerebral diseases have been, as a rule, very unsatisfactory in nearly all cases where the disease had been traced to any organic change in the central nervous system. Athetosis, according to the post-mortem examinations, comes within this classification, and up to the present time, after almost all kinds of experiments have repeatedly failed, it is universally looked upon as an incurable disease. So far as he was aware, only one operation had been performed for its relief prior to his own. This was done by Dr. W. J. Morton. Dr. W. A. Hammond, on May 23, 1882, sent to the author of the paper his original case of athetosis, first seen in the year 1869, recommending that one or more of the nerves in the arm should be stretched. On May 27th, the median nerve in the middle of the arm at the inner border of the biceps muscle was exposed and slightly stretched, making traction in both an upward and downward direction. Immediately after the operation was performed, and as soon as the patient had recovered from the influence of the anæsthetic, he was able to extend his fingers and to retain them in that position with the greatest ease, and found no difficulty in placing them in any position he desired for as long a time as he wished. The pain in the arm was entirely relieved, but the pain in the ring and middle finger had increased, which was subsequently relieved by static and faradic electricity. The movements and pain in the foot had also ceased, and have not returned up to the date of reading the paper. The frequency and force of the epileptic paroxysms from which the patient suffered, occurring as often as six or seven times a week, have been much reduced, the patient having had but one attack since the operation.

PRESIDENT HAMMOND remarked that the most astonishing feature of the case recorded was that the movement and pain in the foot had ceased, and that the epileptic attacks had been almost abolished.

There being no further discussion, the President stated that there would be no evening session, and in lieu thereof extended a cordial invitation to the members of the Association to a reception at his house.

JUNE 23D.—AFTERNOON SESSION.

The first business was the reading of a paper by DR. V. P. GIBNEY, of New York, on

A CASE OF SWIFT AND ONE OF SLOW COMPRESSION OF THE UPPER CERVICAL CORD FROM DISPLACED ODONTOID PROCESS; WITH SPECIMENS.

The detailed histories of these two very interesting cases were presented together with a description of pathological findings in each. The post-mortem appearances were those usually found in compression myelitis. The principal changes at the point of compression, which involved the white matter, were in those portions which lie next to the posterior horn in the lateral columns extending out into the portions representing the true cross-pyramidal fibres.

DR. MORTON referred to an extremely interesting specimen in the hands of Prof. William Darling, of fracture of the odontoid process and atlas. The canal was reduced to the size of one's little finger. The patient must have survived quite a number of months, as there was perfect union of the fragments. He referred to a case, which he had reported, of dislocation of the fifth cervical vertebra, and which he had reduced by suspending the patient by the neck and chin.

NEW MEMBERS.

The order of business was suspended and the Council reported, through Dr. Seguin, favorably upon and recommended for active membership Dr. C. L. Dana, of New York. The Council reported favorably upon and recommended for associate membership Dr. Mierzenjewski, of St. Petersburg, and Dr. Argent Ollivier, of Paris. These gentlemen were duly elected.

Dr. Edes was requested to take the chair, while DR. WILLIAM A. HAMMOND read his paper on

THE DISEASE OF THE SCYTHIANS—MORBUS FEMINARUM, AND THE ANALOGOUS CONDITIONS.

From a very early period the idea has existed that the male inhabitants of the Caucasus are subject to a peculiar disease, the chief characteristics of which are the loss of the physiological and moral attributes of man, the supervention of impotence, the disappearance of the beard, the atrophy of the penis and testicles, and eventually the implication of the mind to such an extent that the subjects believe themselves to be women, clothe themselves like women and adopt the manner, customs, and occupations of the female sex. A very exhaustive historical sketch of this condition was given by the author of the paper. Dr. Hammond related his observations on the Pueblo Indians, who have among their number examples of an allied condition brought about intentionally to a very great extent by horseback-riding and masturbation. The case of Edwin Hyde Lord Cornbury, Governor of New York, during the reign of Queen Anne, adduced by Dr. Spitzka, was referred to as a person whose greatest pleasure was to dress himself as a woman, and New York frequently saw its Governor, the Commander of the Colonial troops and a scion of the royal stock, promenading the walls of the little fort in female attire with all the coquetry of a woman, and all the gestures of a courtezan.

DR. F. T. MILES, of Baltimore, exhibited some morbid specimens, and presented a brief history of a

CASE OF HEMORRHAGE INTO THE PONS; DEATH ELEVEN MONTHS AFTER.

There was hemorrhage into the lower part of the pons on the left side, in the median line near the floor of the fourth ventricle, about the position of the acoustic striæ.

DR. C. L. DANA, of New York, read a paper upon

THE MECHANICAL EFFECTS OF NERVE-STRETCHING UPON THE SPINAL CORD.

The spinal cord hangs rather loosely in its canal. It changes its position in the different movements of the trunk. The question in nerve-stretching, therefore, is essentially not whether the cord moves, but whether it is stretched. The spinal cord is quite firmly connected with the dura mater. This is fastened to the

borders of the foramen magnum; below it extends over the nerve roots into the inter-vertebral canals, and is continuous with the nerve sheaths. In pulling on the sciatic nerve the traction comes on the cord and dura together, but chiefly on the latter. Details of experiments upon the human cadaver were given, which proved possibilities of stretching the spinal cord.

The clinical evidence that stretching the sciatic nerve moves the spinal cord is confined chiefly to the cases in which the cutting operation is done. In the great majority of cases of nerve-stretching no evidence of any mechanical violence to the cord is shown. The subject of subcutaneous nerve-stretching was referred to at some length. The evidence that any central change is produced by this means was considered very slight. Cases in which subcutaneous nerve-stretching have been used were cited. From his studies, Dr. Dana formulated the conclusions:

(a.) As regards the cutting operation: (1) traction upon the sciatic nerve of the cadaver in a majority of cases stretches the spinal cord; (2) this stretching is greatest at the lower part, amounting to 2 to 3 mm. with a very powerful pull; (3) the movement is distributed over the yielding cord and only in a minority of cases does it reach the medulla. The medulla then moves very slightly, less than 3 mm.; (4) when the cord is not moved it is due probably to the tight adhesion of the sheath to the nerve and of that to the surrounding tissues, especially in the inter-vertebral canal; (5) traction upon the nerve and sheath, if it reaches the spinal canal, acts chiefly upon the dura; (6) it may be legitimately inferred that what happens in the cadaver occurs also in the living subject.

(b.) As regards subcutaneous nerve-stretching: (1) on the cadaver this is a powerful means of moving the cord; (2) in the living subject it is very doubtful if subcutaneous nerve-stretching affects the cord mechanically at all. The clinical evidence is very meagre; anatomical evidence can not be obtained.

DR. MORTON testified to the carefulness with which the experiments alluded to in the paper were performed. He thought the subcutaneous method would be more generally used than the cutting operation.

DR. HAMMOND had never had any doubts but what the spinal cord was stretched by the subcutaneous method.

DR. R. T. EDES, of Boston, read a paper on so-called

SPINAL CONCUSSION.

The paper was intended to point out the occurrence, in a certain number of cases of somewhat obscure pathology, of a definite and well-known lesion.

He had not been able to find any statement of the frequent occurrence of this lesion, or its symptoms, among the very various and vague sequelæ of spinal concussion. Several cases had occurred in his hospital service, in which the clinical evidence of degeneration of the postero-lateral columns of the cord had been very clear, and where the causation had seemed to be a severe shock to the spinal column, producing no appreciable osseous or ligamentous lesion. Brief histories of four cases, with remarks, were given.

DR. W. J. MORTON, of New York, read a paper on

A YEAR'S PROGRESS IN MEDICAL ELECTRO-THERAPEUTICS BY STATICAL ELECTRICITY.

The author first gave a brief historical sketch. Then followed an enumeration of the progressive steps which had been taken, under the headings: 1. Machines. 2. Electrodes. 3. A new current, introduced by the author. 4. Therapeutic progress.

Under the latter heading, Dr. Morton stated that, as a curative form of treatment, he had more confidence in it than formerly, and thought that static electricity was fully the equal, if not the superior, of galvanism and faradism. He divided the cures by electricity into four classes:

1. Effected, we know not how.
2. Effected by nerve and muscle stimulation.
3. Effected by molecular change, and consequent alteration of nutrition, by direct and local electrization.
4. Effected by reflex and by inhibitory action.

It was in the third class that he believed statical electricity superior to any other form. Dr. Morton then proceeded to specify the ailments which he believed were particularly amenable to static electricity. In hysteria he claimed for it an almost specific influence.

DR. ROCKWELL remarked that his experience with static electricity had, on the whole, been very satisfactory; but he did not think it was possible to consider it as valuable as the other two forms. The dynamic form had a much wider range of usefulness. There were some cases benefited more by static than by dynamic electricity.

DR. DANA had made some use of static electricity within the past six months, and found it very useful. He had interested himself more particularly with its tonic effects, and had found it of great value in neurasthenia and chronic rheumatic articular affections.

DR. AMIDON had never done anything with static electricity, but considered it of little value except as a counter-irritant and slight tonic. It was a decided excitant of the imagination.

DR. G. M. HAMMOND reported beneficial results from the use of static electricity in cases of progressive muscular atrophy.

THE SECRETARY read a letter from Dr. J. J. Mason, of Newport R. I., which was accompanied by photographs of the nuclei in the nerve cells of *Ignana tuberculata*. He had found no gigantic cells in the nucleus oculomotorious, or trochlians.

DR. W. R. BIRDSALL, of New York, read a paper on

THE SLEEPING DISEASE OF AFRICA.

The disease was ushered in by a chill and headache. The patient loses his spirits, is disinclined to do anything, has a staggering gait, suffused eyes, and dilated pupils. This part of the disease is called "ozyone." Ozyone is said to be almost identical with ordinary nasal catarrh. The patient may remain in this condition for from two months to a year before decided somnific symptoms present themselves. When this stage is reached, the patient does little else but sleep and eat. Appetite, even at the best, is remarkable. As soon as patient has finished his meal he immediately retires until the next is ready. During sleep the pupils are normal, as are also the pulse, temperature, and respiration. The duration of this stage, which is called by the natives "*Nkanli y'anty âvinlâ*," is said to be about two months, at the end of which time the patient quietly dies, without convulsions or any other prominent symptom.

DR. SEGUIN reported a case similar to those described in the paper which had come under his notice a few years previous.

A very interesting paper on *Vertebral Cancer and Paraplegia* was read by DR. E. C. SEGUIN.

DR. H. D. SCHMIDT'S (New Orleans) paper on "*A Case of Tumor in the Fourth Ventricle of the Brain, unaccompanied by Special Symptoms*," was read by title.

There being no further business, upon motion, the Association adjourned until the third Wednesday in June, 1883, the place of meeting to be hereafter determined by the Council.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Fourth Annual Congress, held at Boston, June 12, 13, and 14, 1882.

(Specially reported for THE MEDICAL NEWS.)

MONDAY, JUNE 12.—The Fourth Annual Congress of the American Laryngological Association convened at the Hall of the Boston Medical Library Association, the PRESIDENT, DR. FREDERICK J. KNIGHT, in the chair.

THE ADDRESS OF WELCOME

was made by DR. S. W. LANGMAID, of the Committee of Arrangements. In bidding the Fellows welcome to the meeting, he called attention to the position the Association had already attained among medical organizations, and the high character of its published proceedings. The pleasant task of entertaining the Association had been rendered easier by the fact that the Fellows were, in virtue of the abundance of provision upon the programme, hosts as well as guests. The number of papers promised gave evidence of great activity and interest, which was confirmed by the attendance upon the Congress. Owing to the amount of business before the meeting, he would not extend his remarks, but conclude by extending to the Association, on behalf of the Committee of Arrangements, a cordial welcome to Boston.

DR. FREDERICK J. KNIGHT read the

PRESIDENT'S ANNUAL ADDRESS,

in which he discussed the position of laryngology among specialties, recommended more attention to the subject by medical schools; considered the details of clinical instruction and its importance as part of the under-graduate course in colleges. The essential necessity of higher medical education was dwelt upon, and the cultivation of a more healthy public sentiment was considered a part of the physician's duty, and for which he should lend his influence. The need of having our medical teachers' incomes entirely independent of the size of their classes was dwelt upon, and the endowment of competent colleges recommended.

The change of place of meeting from Niagara to Boston was explained; and the advantages of holding meetings in large cities, where hospitals and dispensaries exist, over watering places were pointed out. In conclusion he recommended that all future meetings should be held on the third Monday of June, and at a distance not greater than one night's journey from New York City, inasmuch as a large number of the Fellows live in that city.

PROF. ELSBERG read his paper on *Paralysis of the Laryngeal Muscles*, which he illustrated by diagrams demonstrating the results of the forms of paralysis resulting from paralysis of each of the five muscles of the larynx. These laryngeal images also showed different degrees of paralysis, or paralysis of only a part of a muscle, both uni- and bi-lateral. The complication of spasm with paralysis was also discussed, and the resulting distortion of the glottis explained. Catherization was urged to be sometimes a valuable substitute for tracheotomy. The paper was discussed by Drs. Bosworth, Seiler, Roe, Hartman, and Morgan.

DR. CARL SEILER read a paper forwarded by DR. W. C. GLASGOW, of St. Louis, who was unable to attend, entitled *Laryngeal Asthma*, which called attention to bronchial spasm due to laryngeal disease, and cited a number of cases in illustration. The attacks of asthma produced by reflex irritation in the bronchi are well recognized, but when pathological changes cannot be demonstrated in the lungs, but are found in the larynx, and when local treatment of the latter organ removes the diseases, it is evidence that laryngeal disease must be classed as one of the causes of reflex bronchial spasm, and a laryngoscopic examination may guide a treatment that would lead to cure in cases otherwise intractable.

DR. ROBINSON objected to the elevation of an accident of a disease into a special form of disease. Asthma is due to many causes, a peculiar neurotic element present, and brought on by irritation of various parts of the air passages other than the larynx. Discussed also by Drs. Jarvis and Seiler.

Dr. J. R. FRENCH, of Brooklyn, exhibited some photographs of the interior of the larynx taken by means of the mirror, and explained the process of photographing the living larynx.

The Association went into business session at 12.30 P. M., for the election of Fellows and nomination for officers.

Drs. Langmaid, Shurley, and Lincoln were appointed as a *Nominating Committee*.

Drs. Elsberg and Morgan, *Auditing Committee*.

Drs. Seiler and Bosworth were appointed *Tellers*.

The following *New Fellows* were declared to be elected on recommendation of the Council: Drs. S. H. Chapman, of New Haven, Ct.; Thos. Amory De Blois, of Boston; F. H. Hooper, of Boston; Frank L. Ives, of New York; and D. N. Rankin, of Alleghany, Pa.

AFTERNOON SESSION.—The Association met again at three o'clock; when DR. D. BRYSON DELAVAN read an interesting essay *On the Question of Hypertrophy of the Osseous Structure of the Turbinated Bones, Practically Considered*, in which the occurrence of the enlargement of the middle turbinated bone particularly, as a cause of deflection of the septum, and the treatment of the resulting stenosis by removal of part of the hypertrophied bony structure, and subsequent straightening of the canal was recommended. A general discussion followed.

DR. FRANK H. BOSWORTH, by appointment, opened the discussion upon *Ozæna, its Pathology and Treatment*, by pointing out the different causes of offensive secretions from the nose, which he classed under four heads, (1.) Syphilitic ulceration, (2.) Scrofulous ulceration, (3.) Foreign body with retained secretion, (4) Rhinitis in which there is adherent crusts. He advocated the disuse of the word ozœna as unscientific. In the treatment strict cleanliness, removal of obstructions to outlet of secretions, and stimulating applications in cases of rhinitis, were recommended. In the first two forms, constitutional treatment is also required.

An interesting discussion on the paper took place, during which DR. THOMAS F. RUMBOLD took occasion to exhibit his catheter spray douche for cleansing the nares.

In the evening the Fellows of the Association attended a reception at the house of the President, Dr. F. J. Knight, where they were invited to meet the Faculty of Harvard University, the Members of the Hospital Staffs of the Massachusetts General and City Hospitals, and some members of the Massachusetts State Medical Society, then holding its one hundred and first annual session in this city.

TUESDAY, JUNE 13.—At the beginning of the morning session an hour was devoted to the

BUSINESS MEETING.

The Secretary presented the minutes of the last annual meeting which had been already published and distributed, and also of two meetings of the Judicial Council; the Treasurer's report, exhibiting a balance of $117.51, was audited by Drs. Elsberg and Morgan, and found correct.

The Nominating Committee presented the following report:

Place of Meeting, New York City on the third Monday in May, 1883.

OFFICERS.

President, G. M. LEFFERTS, M.D., of New York.

Vice-Presidents, DR. CARL SEILER, of Philadelphia; E. F. INGALS, of Chicago.

Secretary and Treasurer, DR. D. B. DELAVAN, of New York.

Librarian, DR. F. H. BOSWORTH.

Council, MORRIS J. ASCH.

Miscellaneous Business.—The PUBLICATION COMMITTEE reported the publication of the last volume of Transactions, and announced that the first volume had also been completed, and the bill was ordered to be paid.

Dr. Knight presented a provisional report of the Committee on Nomenclature, on behalf of Dr. J. Solis Cohen. On motion, copies were distributed for consideration by the Fellows for another year.

The Librarian, Dr. Bosworth, announced a number of additions to the library.

A report from the delegates to the International Medical Congress, Dr. Cohen, chairman, was read and filed.

Dr. L. Elsberg, of a committee appointed for the purpose, read an obituary notice of Dr. F. H. Davis, which was accepted, and ordered to be placed upon the minutes.

Dr. Bosworth representing the committee on diplomas for foreign members, presented a draught which was accepted, and the committee authorized to have the plate engraved at once, and also in connection with the judicial council to prepare a suitable seal to be affixed to such diplomas.

The action of the Council in changing the place of meeting from Niagara Falls to Boston, was, after considerable discussion, approved.

Dr. Elsberg, on behalf of the publishers of the *Archives of Laryngology*, offered to publish the transactions on the same terms as before, which was, on motion, accepted.

It was resolved that discussion should be postponed until the three papers on the programme for the morning session were read.

E. FLETCHER INGALS, M.D., of Chicago, read a paper on *Deflection of the Septum Narium.*

DR. WM. C. JARVIS, of New York, read a paper on

A NEW OPERATION FOR THE REMOVAL OF THE DEVIATED SEPTUM IN NASAL CATARRH.

The operation was in many respects similar to the now popular one devised by him for the removal of turbinated hypertrophies. He referred to Dr. W. Adams as one of the first surgeons to successfully overcome by an ingenious operation distortion of the nasal septum. The various septum perforators and nasal fracture forceps, now in general use, were shown to be the result of the stimulus received from the invention of Adams' well-known instrument.

Although marked deformities of the nose had been remedied by these operations, they were, nevertheless, open to objection. Slight but pathologically important deviations of the triangular cartilage of the septum, were not remediable by Adams' operation, but could be easily remedied by his own. He strongly condemned the practice of perforating the septum to obtain a delusive bilateral nasal respiration, by creating an oblique air-current from the open nostril. Attention was directed to the life-long discomfort caused by the collection and inspissation of mucus about the edges of these unnatural openings, a condition observed in patients having ulcerative perforation of the septum narium. He divided deviations of the nasal septum into three varieties, osseous, cartilaginous, and hypertrophic. These three varieties occurred in two forms, localized and general. The first form included such conditions as dislocation of the cartilage of the columna, cartilaginous spurs and ridges in the triangular cartilage, and hypertrophy of the mucous membrane over the vomer, ethmoid, columna nasi, and osseous spurs. The second division included extensive deflection of the cartilaginous and osseous septum.

He demonstrated the rare occurrence of osseous spurs mentioned by some authors as of such common occurrence, by reference to Professor Bosworth's large throat clinic, at Bellevue Hospital. Three different instruments were employed by him in operating, namely: A wire écraseur, transfixion needle, and septum scissors. The écraseur was identical with the one already presented by him, and so familiar to the medical profession. The tissue forming the most prominent part of the deviated septum was pierced at its base by means of the transfixion needle, and the wire loop carried over the point projecting into the nostril. On drawing the wire home all the cartilaginous or hypertrophied tissue outside the needle's shaft was severed from its connection with the nasal septum. The needle acted somewhat like a director. The slow traction employed to accomplish a bloodless operation, also insured the smallest amount of pain.

Localized cartilaginous projections could be removed at a single sitting. Marked general deviations required several operations. The fine steel wire employed would sever the densest cartilage without fracturing. Small ridges of cartilage were seized and snipped off by a peculiar beaked scissors having an angular shank. Its shape facilitated inspection of the part while operating. Sufficient space could be obtained in partly osseous deviations of the septum by removing the soft tissues to restore nasal respiration and relieve contact. An ample opening could be obtained in a nostril rendered imperforate by a combined osseous and cartilaginous deviation by simply excising the soft septum tissues and portions of the turbinated structure lying opposite. Imperforate nostrils were perforated by employing a needle having its point almost at a right angle with the shaft. Successive portions of the obstruction were transfixed and snared off until a free opening was established.

Attention was called to the part played by the hypertrophied mucous membrane overlying the septum. In nasal catarrh many of the so-called cases of deviated septum were really hypertrophies of the overlying mucous membrane, produced by the irritation of tumefied or hypertrophied turbinated tissues lying opposite. These obstructions not only impeded respiration, but acted as irritants, and, by distorting the nasal gutter, prevented the easy efflux of the nasal mucus; the mucus thus retained, by becoming inspissated, contributed to the stenosis and acted as an additional irritant. The recognized fact that marked distortion of the nasal septum was, as a rule, unaccompanied with external deformity, was favorable to his method of operating.

A clean surface was essential to success in restoring the internal symmetry of a distorted nostril. One drop of blood was sometimes sufficient to veil the field of operation and prevent immediate progress. Hence the failure of cutting instruments, whose intelligent use was dependent upon careful ocular inspection. As the manipulation of the transfixion needle and placing of the wire loop was attended by no hemorrhage, a clear view and precise movement were invariably secured, and, as might be expected, the results were definite, satisfactory, and sure.

Specimens of septum tissues removed by his method were exhibited, and his remarks were well illustrated by drawings enlarged from careful sketches. No exceptions were taken to his claims.

E. L. SHURLEY, M.D., of Detroit, read a paper on

Lupoid Ulceration of the Nasal Septum. In the discussion the pathology of nasal stenosis due to deviated septum was considered, and the several operations for its correction compared. Preference appeared to be given to the method of Dr. Jarvis with the wire loop; although Dr. Delavan approved highly the method of Dr. Harrison Allen, contained in an article in the *American Journal of the Medical Sciences* for January, 1880. With regard to Dr. Shurley's case, there seemed to be more than a suspicion that it was due to syphilis, and similar cases were reported in which only a negative history could be obtained.

At the Afternoon Session, Dr. Beverley Robinson, of New York, read a communication on *Impaired Cardiac Power as an Efficient Cause of Congestive Affections of the Throat*, in which a central cause for some chronic throat disorders was pointed out, and the importance of general treatment made manifest.

A paper on

PHARYNGEAL IRRITATION,

by Harrison Allen, M.D., of Philadelphia, was read, in the author's absence, by the Secretary.

The object of this paper was to invite attention to the relations existing between the various movements of the pharynx and the irritable conditions of the passage as recognized in practice. The subject was divided into three portions—the irritation of the naso-pharynx, of the oro-pharynx, and of the laryngo-pharynx. The causes of disturbed action of the *naso-pharynx* reside, it was thought, in the forced elevation of the vellum, due either to over-action of the levator palati muscles, or paresis of the depressors of the velum. The action could with ease be studied through the nose in persons having capacious chambers. The mechanism is further modified by the presence of the naso-pharyngeal tonsil. The unnatural condition of the parts in the *oro-pharynx* are numerous. One of the most common is want of tonicity in the muscles on one side of the passage. This results in asymmetry, an effect chiefly seen in the palato-pharyngeal folds and on the sides of the uvula. The weakened or paretic palato-pharyngeus muscle assumes a nearly vertical position, and in the act of gagging moves scarcely at all toward the median line. When all the structures on one side of the oro-pharynx are atonic, the tonsils sag inward; and if large infra-tonsilar glands are present, persistent irritation of the parts ensue. The paresis of the sequelæ of diphtheria is, in the author's judgment, always bilateral, while that of syphilitic angina is always unilateral. The irritable states of the *laryngo-pharynx* may be excited by comparatively trifling causes—a result most likely due to the high degree of sensibility normally present here. The inferior constrictor muscle might well be called the guardian of the laryngeal orifice, and on the slightest provocation it enters into active constriction of the passage, and aids in the act by which the rima laryngis is closed. If the smallest extraneous particle lie in the region of the laryngo-pharynx —in the pyriform sinus or adjacent parts—the irritation is extreme. Similar troubles may arise from an engorged follicle or closed gland.

In conclusion, it was thought that a careful study of all the causes entering into the disturbance of mechanism was required before pharyngeal irritation could be with certainty removed.

The President exhibited a case of *Aphonia Spastica* in a middle-aged man, otherwise apparently in good health. The affection came on rather suddenly nearly a year before without assigned cause; he appeared to be getting better. Treatment by galvanization was recommended, with vocal gymnastics, and general nerve tonics.

Dr. Wm. H. Daly, of Pittsburg, read an interesting paper on *Catarrh Involving the Antrum of Highmore, and its Treatment*, in which the details of two cases were given. The treatment was the same as for abscess, perforation through the socket of the second molar tooth, extracted for the purpose. The teeth were healthy; the disease apparently began in the nasal chamber as a catarrh. The odor of the retained secretion was very offensive.

Dr. Carl Seiler opened the discussion

ON THE NATURE AND FORMS OF LARYNGEAL ULCER, SPECIALLY THE SO-CALLED CATARRHAL ULCER.

He said that he recognized the importance of the subject of deciding whether true ulceration of the mucous membrane was always due to a specific cause, or whether there was a kind of shallow ulceration met with in ordinary catarrhal inflammation.

He said that abrasions of the mucous membrane, which were nothing but localized loss of epithelium, occurred frequently in those portions of the larynx which were most exposed to friction, such as the inter-arytenoid space, the edge of the epiglottis, etc. These abrasions were by many regarded as ulcerations, but they were never covered with pus.

Occasionally, shallow round or lenticular ulcerations, covered with a white pus-like secretion and penetrating through the epithelial layer and the basement membrane into the sub-mucous tissue, were seen in catarrhal inflammations, in which no specific cause existed. These were the so-called catarrhal ulcers.

Thus, in the syphilitic laryngitis, two kinds of ulcers were observed—the shallow, and the deep and destructive kind. The peculiarity of the syphilitic sores was that they are always bilateral, and more or less symmetrical on either side, that their edges are raised and surrounded by an areola of deep inflammation, and that they are covered with a thick creamy pus. The deep syphilitic ulcers were always due to a breaking down of gummata in the mucous membrane, and they appear very rapidly—destroying a great deal of tissue in a short time.

The phthisical sore, on the other hand, was usually unilateral, non-symmetrical, appearing often on that side of the larynx corresponding with the side on which the greatest amount of lung implication is noticed. They are usually round, and tend to run into each other; their edges are not raised above the level of the mucous membrane, which is pale, even close up to the ulcer. They are covered with a grayish pus, and are rather slow in their development and progress. They are caused by the breaking down of cheesy deposits in the mucous membrane. The ulcerations of lupus closely resemble those of syphilis, so that it is often difficult to make a differential diagnosis.

Carcinoma, epithelioma, and leprosy give rise to ulceration of the mucous membrane of the larynx, and considerable destruction of tissue; having, however, no distinctive features, being easily recognized by other symptoms and appearances characteristic of the disease giving rise to them.

The discussion was continued by nearly all present; no agreement was obtained upon the pathology of catarrhal ulcer.

Wednesday, June 14.—The Secretary, for Dr. Clinton Wagner, of New York, read a descriptive paper on a case of *Ossification of the Right Arytenoid Cartilage. Separation and Expulsion following Thyrotomy for the Removal of a Papilloma*, and the specimen was passed around for examination. Dr. Seiler reported two cases of a similar character, and attributed the condition to a chronic sore throat in a syphilitic subject.

S. W. Langmaid, of Boston, made a few introductory remarks upon *The Singing Voice, its Physiology, Pathology, and Treatment*, which led to general discus-

sion upon the influence exerted by disorders of the upper air-passages upon the singing voice, and the propriety of interference.

J. O. ROE, M.D., of Rochester, opened discussion on *The Utility or Non-utility of Local Applications in Chronic Catarrhal Laryngitis*, in which he strongly recommended local applications by means of medicated sprays, or with the cotton-holder, using astringents and stimulants.

DR. DEBLOIS exhibited a pair of laryngeal forceps of original design, and also an instrument for applying the wire snare in operations upon the nose.

DR. SHURLEY exhibited his galvano-caustic knife for operations in the nasal chambers; and Dr. Rumbold explained his spray-douche, and showed its action.

The Society went into an election for officers, and the nominees already named were elected. DR. LEFFERTS, the President-elect, was inducted into office, and made a brief acknowledgment of the honor conferred.

THE AMERICAN MEDICAL ASSOCIATION.

Thirty-third Annual Meeting, held at St. Paul, June 6, 7, 8, and 9, 1882.

(Specially reported for THE MEDICAL NEWS.)

SECTION ON SURGERY AND ANATOMY.

TUESDAY, JUNE 6.—The Section met at 3 P. M. Owing to the death of the Chairman-elect, Dr. J. C. Hayes, of Iowa, the Secretary, DR. WM. BYRD, of Illinois, was elected Chairman, and DR. HUGH MCCALL, of Michigan, Secretary.

DR. CARL SEILER, of Philadelphia, made some

REMARKS ON THE USES OF ELECTRICITY IN SURGERY,

in which he gave a description of a galvano-cautery battery, devised by himself, and of an electric motor originally used for running sewing machines, but admirably adapted for a surgical or dental engine. The galvano-cautery, he said, had not been used more often because the batteries in the market are either too large and cumbersome or else so complicated as to easily get out of order, and also because the current could not be graduated, so that any desired heat of the knife could be obtained during the operation and without interrupting the current. He had found that the dull red heat of the knife was very painful both to the skin and mucous membrane, but an incision made was not followed by bleeding; a bright cherry heat was painful to the skin, but not to the mucous membrane, and an incision with the knife at this temperature was also bloodless; the knife at a white heat was painless both to mucous membrane and skin, but that it cut like cold steel and the hemorrhage was very copious. He therefore always used the cherry heat for operations in the nasal cavity. The gradation of the current and heat was obtained by having the zinc-plates of the battery suspended above the cups containing the carbons and fluid in such a manner that they can be immersed to any desired depth by means of a foot-treadle, and thus a greater or less amount of current was generated. In order to overcome polarization of the battery, which prevents continuous action, the battery has two cups and the zinc-plates are hung on a bar balanced in the centre above the cells. Thus if one series of plates is immersed in the fluid, the other is exposed to the air, which removes the hydrogen globules adhering to the zinc surface. By a rocking motion of the treadle the plates are immersed alternately, thus always exposing a fresh surface to the acid and keeping up the current for any length of time.

The electric motor he had used for some time past, and had found it far superior to the dental engine in operations for the removal of exostoses from the septum, or other bony obstructions in the nose, and also for freshening the surface of indolent ulcerations with the corundum cone. The motor is the smallest ever made, weighing only one-half pound, but nevertheless it had more power than the dental engine, and its revolutions can be regulated from 100 to 60,000 per minute, by the battery belonging to it. Another very great advantage of the instrument is the freedom from motion of the hand holding the hand-piece, which, when the dental engine is used, is very perceptible, being communicated from the foot working the treadle of the fly-wheel to the whole body, and materially interferes with the delicacy of touch necessary in many of the operations about the mouth and nares, for which the rapidly revolving drill or burr is so admirably adapted. The motor is suspended from the ceiling by a movable arm, over which cords run carrying the counter-weights. In this way the motor can be placed in any position desirable, and the hand of the operator is relieved from all weight except that of the hand-piece holding the drill. There is but very little noise connected with the revolutions of the motor, and he had not found that patients complained of the noise. Another advantage was that the cost of the motor, and the battery belonging to it, was considerably less than that of a good dental engine.

DR. DAVID PRINCE, of Illinois, said that he had used the thermo-cautery recently in many cases where he had formerly used the galvano-cautery, and was well pleased with it.

GASTROTOMY FOR THE RELIEF OF INTUSSUSCEPTION.

DR. WM. HILL, of Bloomington, Ill., presented a report of a case of ileo-cæcal invagination, operated on August 23, 1855, with recovery.

DR. PECK, of Iowa, referred to a case of intestinal obstruction treated by large injections, without relief; finally, upon abdominal section, the appendix vermiformis was found adherent to the vertebral column, and a loop of the bowel constricted by it. He tied the appendix with a double ligature, cleaned it thoroughly, and, relieving the obstruction, closed the abdominal wound. The patient is still living and improving.

DR. HALLEY, of Kansas City, referred to a case in which he proposed abdominal section, but was refused. The patient died, and at the autopsy the obstruction was found to be caused by a bony growth. He also referred to a case in which he had operated, where the obstruction was caused by a complete valvulus of the splenic section of the colon. The patient died. Still he believed the operation a justifiable one, and, in order to obtain good results, that it should be performed early.

DR. LEE, of Chicago, referred to the proper time to operate in these cases, and stated that too much reliance could not be placed upon the temperature and condition of the pulse, and that an operation to be successful should be done early.

DR. PRINCE, of Illinois, referred to the use of Wales's bougie, which could be introduced quite a distance, and the use of warm-water injections through it. If this did not succeed, then he advised an operation, but did not favor the operation in the early history of these cases, unless the symptoms were urgent.

DR. PARKS, of Illinois, spoke of three reasons why the operation was not more frequently resorted to.

1. Fear of meddling with the peritoneum.
2. Difficulty of diagnosis of the position of the obstruction.
3. The difficulty of determining the proper time to operate.

With our present means there should be no hesitation about the first.

The second would always be a difficult matter to overcome.

As to the third, the serious time was previous to the sixth day. In obstruction caused by feculent accumulation the best treatment in his experience was large doses of opium.

Dr. Hill advocated the early operation.

The Chairman thought that injections of water were of no value where the obstruction was not in the colon and strongly advocated the early operation.

Dr. C. C. F. Gay, of Buffalo, read a paper on

ANCHYLOSIS OF THE HIP IN THE STRAIGHT POSITION TREATED BY FRACTURE.

The case promised well, but left the hospital and final result was not known.

Dr. Hill reported a case where fracture occurred in an attempt to break up fibrous anchylosis followed by caries, necessitating resection, and recommended non-interference where the deformity was not too great.

Dr. D. Prince recommended the breaking up of anchylosis where the tendons are not much contracted, and thought the breaking up of adhesions of the hip-joint following diseases of that joint very dangerous, and that they should be left alone or only the tendons cut to allow if possible the restoration of some motion.

Dr. Poore, of New York, thought it dangerous to fracture in cases of anchylosis, but recommended osteotomy.

Dr. Owen, of Illinois, agreed with Dr. Poore that the day for fracture of the femur in anchylosis is past, and that there is neither shock nor danger from osteotomy as compared to the old operation of fracture.

Dr. Andrews, of Chicago, reported a case of death from shock, where osteotomy of the neck of the femur had been performed.

Dr. McCann, of Pennsylvania, advocated the division of resisting tendons before operating.

Dr. Lee, of Chicago, spoke of the difficulty in getting a joint, and stated, if the object were to correct the deformity, that osteotomy would be preferable on account of the absence of shock, while if a joint was desired, fracture would be more likely to succeed.

Dr. Ransohoff, of Ohio, said that in thirty cases seen by him only one case of death occurred, and that not from shock, but from gangrene and caries.

Dr. Halley, of Kansas City, had performed osteotomy twice with good joint in one case and no shock whatever.

Dr. Gay, in closing the discussion, referred to the danger of breaking the saw in the operation of osteotomy.

A paper by Dr. J. H. Warren, of Boston, entitled

A NEW ANATOMICAL TRUSS IN THE TREATMENT OF RUPTURE,

was next read. It contained an account of the treatment for the radical cure of hernia, by injection into the hernial rings after the method used by Heaton, and the application of a truss designed by the author to be worn afterwards till adhesions became sufficiently strong to prevent the recurrence of hernia.

Dr. Andrews, of Chicago, said that Dr. Pancoast was the first to use subcutaneous injection for the cure of hernia. That there is little or no risk in Heaton's operation for inguinal hernia, and that a certain proportion will be cured, but that in femoral hernia it was dangerous.

Dr. Phillips, of Ohio, used a double canula, the inner one finished with a dome point, and he used Dr. Heaton's formula and believed the operation to be a good one.

Wednesday, June 7.

A sub-committee, consisting of Drs. B. A. Watson, of New Jersey, Peak, of Iowa, and Carpenter, of New York, was appointed, to which all papers read in the Section were referred.

A description of a

SPLINT FOR TREATMENT OF FRACTURE OF THE ELBOW,

by Dr. J. F. Stewart, of Illinois, was read by the Chairman.

Dr. George W. Nesbitt, of Sycamore, Illinois, read a paper on

UNUNITED FRACTURE OF THE FEMUR TREATED BY EXERCISE.

He reported a case of ununited fracture treated by rubbing the ends of the bones together, drilling, etc.; then put on a plaster-of-Paris splint, and the patient put on his feet; union resulted. This case was first treated by rest in bed, with long splints.

Dr. Keller, of Hot Springs, Arkansas, said that this case showed the result of bad treatment in the first place, and thought that no fracture of the long bones should be treated but by adjustment and fixation with some fixed dressing fitted and moulded to the parts, and that movable splints should not be used.

Dr. J. W. Carpenter, of Kansas, referred to a case of ununited fracture of the femur which was referred to him. Plaster dressing was applied, and in a short time union was completed. He thought the reason why plaster-of-Paris splints were not more frequently applied, was because physicians did not understand how to apply them properly.

Dr. J. L. Atlee, of Pennsylvania, referred to the advantage of using flannel next the skin in fixed dressings.

Dr. Garcelon, of Maine, spoke of a case of non-union of ten or twelve weeks' standing. The patient ultimately brought suit for malpractice, and while working up the case improvised a leather splint, which he bound firmly to the limb and limped about. When the case came to trial union was found complete, thus showing that plaster alone was not necessary, but some kind of fixed dressing.

Dr. Forbes, of Ohio, opposed the application of plaster primarily, and thought that the swelling should be allowed to subside before applying any fixed dressing.

Dr. Flanner, of Michigan, had been accustomed to use the legs of flannel drawers in the application of the plaster bandage, and stated that some cases would not unite with any kind of dressing.

Dr. Keller, said he did not wait for swelling to subside, but puts on the permanent dressing at once, and in case of danger from swelling uses enough cotton batting to compensate for the swelling. In compound fractures he uses the Bavarian splint.

Dr. L. A. Sayre, of New York, spoke of the desirability of applying the fixed plaster splint at once, and detailed his method of applying the same, stating that he had never seen any evil resulting when properly applied. Woollen should be placed next the skin, as it absorbs the secretions, and is much more comfortable. Watch the case carefully, and if swelling occurs, cut your dressing. In compound fractures dress as in simple, only cut windows opposite the wounds.

Dr. Garcelon asked if swelling had occurred, for instance, if you could not see your patient for eighteen or twenty hours, would you apply your fixed dressing or wait for the swelling to subside?

Dr. Sayre, would wait till swelling had subsided and then apply the plaster, but should put it up in fixed dressing at once if he could see it early and thus prevent a great deal of swelling.

Dr. McLean, of Ann Arbor, asked does non-union occur in your practice where fixed dressings are used?

Dr. Sayre replied that no cases of non-union have

occurred in his practice, nor had he seen a case where the splint was properly applied. The more they go about the better it is for them.

DR. MCLEAN stated that from the tenor of the discussion outsiders might get the idea that non-union would not occur if proper dressings were employed, and thought that it would be a pity if such an impression went out from this Section, for non-union takes place sometimes with all the care that can be bestowed, and with any kind of dressing that can be applied, and referred to a case in which he was called as a witness, and he had been censured by some of his brethren for giving an opinion in court on the following hypothetical case: Suppose a fracture of the humerus treated by short board splints applied to the arm by tapes, the shoulder and elbow allowed to move freely, would that be good surgery, and asked Dr. Sayre's opinion on that case.

DR. SAYRE said he would consider it a case of maltreatment. He stated that a great many things might interfere with union, the constitution of the patient having a good deal to do with the result to be obtained, and that we cannot guarantee union in any case positively.

DR. FREEMAN, of Illinois stated that the contact of the bones, either end to end or side to side, seemed necessary to union.

THURSDAY, JUNE 8.

The first paper was entitled

CONTRIBUTIONS TO THE SURGERY OF THE LIVER,

by DR. JOSEPH RANSOHOFF, of Ohio, the first being a case of *cholelithectomy*, in which he had opened the gall-bladder and removed calculi. The walls of the gall-bladder were stitched to the abdominal wall, then opened, and the obstructing stones removed. The chief point on which he dwelt was the positive diagnosis of stone by a fine aspirating needle touching the stone before operation, and claimed that this was the first case in which that had been done, as far as he knew. The second part was a history of a case of hepatic abscess, where repeated aspiration having failed to cure, an opening was made through the abdominal wall with the thermo-cautery, the wall of the abscess stitched to the abdominal wall, and an opening, through one-half inch of liver tissue, made into the cavity of the abscess, without the loss of one drop of blood. The use of warm water, for six or eight hours a day, to cleanse the cavity, without any carbolic acid, was continued, and the inspection of the interior of the cavity, by the use of the laryngoscopic mirror, revealed large sloughs, which were removed by forceps. The patient finally made a good recovery.

DR. ANDREWS, of Chicago, read a paper on

THE PROPER POINTS FOR INCISION IN THE DRAINAGE OF SUPPURATING KNEE-JOINTS,

referring to eight points of incision.

EXCISION OF THE INTESTINAL CANAL WHERE COVERED WITH PERITONEUM.

This was the Address of the Chairman of the Section, DR. WM. A. BYRD, of Illinois, and was referred to the Section for discussion.

Dr. Byrd gave a short *résumé* of the history of excisions of the intestinal canal, and referred to the good results in operation, and the freedom from danger with proper care in diet, etc. The chief interest centred in the use of a flap of skin for the closure of an artificial anus, after the septum or spur between had been broken down. He also advocated the cutting away at the time of primary operation of a portion of the intestines obliquely, and so unite them as to prevent the formation of a spur between the two ends, and the more ready closure of the artificial anus afterwards. Dr. Byrd, in conclusion, presented the following propositions:

1. Any portion of the alimentary canal may be safely excised, and stricture, cancer, perforating ulcer, and gangrene demand that it should be done.

2. The method heretofore adopted of suturing the divided ends of the bowel is dangerous, because tympanites, by pressing upon the heart and lungs, interferes with the vital processes in a patient already worn down by disease and shock, and by distention causes traction upon the sutures in such degree as in many instances to cause their giving way, which is followed by fecal extravasation, peritonitis, and death.

3. These dangers are to a great extent obviated by making an artificial anus, permitting the escape of the gases as they form.

4. Artificial anus is easily cured by a plastic operation, devised by himself.

5. If that portion of the bowel which constitutes the eperon be cut away at the time of the first operation, no future operation will be found necessary, as the artificial anus will close spontaneously by cicatricial contraction.

6. The successful cases reported in the paper prove the propositions to be true.

DR. RANSOHOFF referred to the method of Dr. Byrd as the application of an old operation in other localities of the body to a new use, being the method of closing exstrophy of the bladder, and for repair of the lower wall of the urethra, converting skin into mucous membrane. In the second place, he thought it dangerous to remove so much of the blood-supply of the bowel as would be necessary by the excision of the oblique section of the bowel, on account of the great part of the mesentery which would be removed in the operation, increasing danger of death of the intestines.

DR. PREWITT, of Missouri, agreed with Dr. Ransohoff in the danger of the operation which was recommended by Dr. Byrd. He thought that after the surgeon has opened the bowel and given free exit to the feces, he has done enough, as any attempt to remove nature's adhesions may only result in harm to the patient.

DR. BYRD said that he was glad that the let-alone treatment was brought forward, but was also glad he had not followed it, as in eighteen cases of strangulated hernia he had only lost three.

Dr. Prewitt said that he did not advocate the let-alone treatment, only not to break up the adhesions which nature formed for the safety of the patient.

DR. GARCELON, of Maine, asked, in cases of strangulated hernia where the bowel is dead, whether he would take away all the dead part and dissect up the bowel and bring the parts together.

DR. BYRD said unless the position was good and the opening close together, he would dissect up the bowel and complete the operation as he had described.

DR. E. M. MOORE, of Rochester, said he thought it was not well to interfere with nature's efforts at repair, and he recommended leaving the adhesions alone—even in femoral hernia, where the position is not so favorable for an artificial anus after the stricture of the bowel has been removed. He wished to enter a protest against the position taken by the Chairman.

The Section then adjourned.

CORRESPONDENCE.

WATER IN THE STOMACH AND LUNGS IN DEATH FROM DROWNING.

To the Editor of THE MEDICAL NEWS.

SIR: I desire through your columns to correct an error, in connection with the report in last week's daily

papers, of an autopsy made by myself and Dr. Cadwallader, acting Coroner's physician, of the body of a woman supposed to have been drowned in the river Delaware.

The reporters of the case, in their desire to dress it up as effectively as possible, have put *their own* interpretation upon the results of this autopsy, whilst making it appear to the reader that they are expressing *my* views; and inasmuch as these inferences do not seem to me to be fully warranted from a single, isolated case, and especially where there was no absolute proof that the death was *caused* by drowning, I do not wish to be considered as endorsing the rather premature conclusions attributed to me by these well-meaning, but overzealous reporters.

Certainly, the leading authorities all teach that the presence of water in the lungs and stomach (especially the former) constitutes the most reliable evidence of death resulting from drowning, and the entire absence of water from both the lungs and stomach in the autopsy referred to was certainly a very noticeable feature, *provided* we were certain that the death was caused by drowning, which we were not, as the case was one of a multitude of similar ones, on which the Coroner's jury pronounces the stereotyped verdict of "found drowned." It is evidently a very important point for the legal physicians to decide—what are the positive, unequivocal signs of death by drowning? It may, in truth, become the *vital* point to establish in a capital case, as would appear to be the fact in the now pending "Malley Case." But in order to establish an important scientific truth we should not be content with merely one or two experiments, but these should be repeated under varied circumstances, until every doubt is removed.

I may be permitted to say, in this connection, that I am now engaged in investigating the post-mortem appearances in cases of death from drowning, as a legitimate object of inquiry connected with medical jurisprudence; but I had not the remotest idea that the results of the late autopsy, which was made in strict privacy, and which was only part of a series of observations of a similar character, would have fallen into the hands of the ubiquitous "reporter," and been made to assume a coloring not designed by myself.

Very respectfully yours,

JOHN J. REESE, M.D.

316 S. TWENTY-FIRST ST., June 26, 1882.

NEWS ITEMS.

BROOKLYN.

(*From our Special Correspondent.*)

LONG ISLAND COLLEGE HOSPITAL.—Some changes are about to be made in the faculty of this school. The Chair of Surgery has been divided between Profs. Jarvis S. Wight and J. D. Rushmore, giving the branch of didactic surgery to one and clinical surgery to the other. Dr. B. F. Westbrook has resigned the position of Lecturer on Anatomy, and Dr. Tetamore has been appointed Curator.

THE COUNTY BOARD OF PHARMACY.—At a recent meeting of the Medical Society of King's County, Drs. Audley Haslett and J. D. Rushmore were chosen the Medical Members of the County Board of Pharmacy. They are their own successors, and are elected to serve for a term of two years, from July 24.

THE ASSASSIN OF DR. SCHENCK.—Francis G. Thomas, the would-be assassin of Dr. Schenck, whose narrow escape from death was reported in the "NEWS" of June 17, attempted to commit suicide at the jail on the night of the 18th ultimo. When discovered he was nearly strangled. He is bent on taking his own life, and requires to be constantly watched. Dr. Schenck is recovering rapidly.

CANADA.

(*From our Special Correspondent.*)

ONTARIO MEDICAL COUNCIL.—The annual meeting of the Council of the College of Physicians and Surgeons of Ontario, was held in Toronto on the 13th, 14th, 15th, and 16th of June, for the transaction of general business.

Dr. Bray, of Chatham, was elected President for the ensuing year, and the following gentlemen as the Examining Board:

Anatomy (descriptive), Dr. Fulton, Toronto; Theory and Practice of Medicine and General Pathology, Dr. A. S. Oliver, Kingston; Midwifery (operative and other than operative), Dr. Burdett, Belleville; Physiology and Histology, Dr. Tyer, Chatham; Surgery (operative and other than operative) and Surgical Anatomy, Dr. Caniff, Toronto; Chemistry (theoretical and practical), with Toxicology, Dr. Barrett, Toronto; Materia Medica, Therapeutics, and Botany, Dr. W. W. Dickson, Pembroke; Medical Jurisprudence and Sanitary Science, Dr. Nicol, Brampton; and Homœopathic Examiner, Dr. G. E. Field.

EDINBURGH.

(*From our Special Correspondent.*)

DEATH OF PROFESSOR SPENCE.—By the death of Prof. Spence Edinburgh has lost her most successful surgeon. He was born in 1812, and was appointed to the Professorship of Surgery in 1864. Although not possessing the world-wide fame of some of his predecessors, he was, nevertheless, a surgeon who, if judged by the success of his operations, and not by the originality of his talents, occupied no inferior place to even Syme, Liston, or Bell. Lister, during his tenure of the Chair of Clinical Surgery in this University, convinced all his colleagues in the Infirmary and the Hospital of the truth of his antiseptic surgery, except Spence, who, to the last, could never be brought to believe in the use of antiseptics. He held, that all that was required in the treatment of wounds, and in the conducting of surgical operations, was thorough cleanliness, such as could be attained by a free use of simple water, coupled with careful attention to the general condition of the patient, and to the perfect ventilation of the ward. And it is rather remarkable, that holding and practising these views he was able to produce statistics of operations, both major and minor, which were as good, if not better, than those of Lister. And, indeed, Lister acknowledged this when, in seeking to prove the benefit of his method as compared with the old method, he declined to contrast his results with those of Spence, which he held to be perfectly exceptional. Spence has made many contributions to surgical literature, of which his *Lectures on Surgery* will best preserve his reputation and memory. In these he has embodied a very extensive and varied experience, and has described the necessary operations in a very clear and practical manner. He was an excellent anatomist, and his dissections of the arteries of some portions of the body, preserved in the museum of the University, bear surprising evidence of his skill.

The candidates announced for the vacancy created by Prof. Spence's decease are Dr. John Duncan, Dr. Joseph Bell, and Mr. Chiene, all of them surgeons in Edinburgh, and holding appointments in the Royal Infirmary.

VIENNA.

(From our Special Correspondent.)

Combustio: Billroth's Pathology.—Early in the week Prof. Billroth exhibited a case of severe burn, and discussed the pathology of the injury in a different manner from that obtaining among French surgeons.

The patient, twenty years old, had burned himself on the right arm, by contact with a mass of red-hot iron. The entire flexor surface of the forearm was of a red color, very painful, and covered with blisters, of which several ran together to form larger bullæ.

Prof. Billroth is accustomed to differentiate between three degrees of burning, in opposition to Dupuytren, who distinguishes six.

In the *first degree* (hyperæmia) the skin is of a bright red color, painful, and, in consequence of the exudation of serum into the skin tissue, somewhat swollen. Desquamation of the cuticle often occurs, and the capillary blood-vessels are always distended.

The *second degree* is characterized by the formation of blisters, some of which immediately follow the burning, others some hours later. These vesicles are caused by a rapid flow of fluid out of the distended capillaries, which lifts up the horny layer of the cutis. The blisters, which originally contained pure serum, or serum mixed with blood, in further course, can become purulent. A crust is constructed, under which new epidermis is formed.

Both degrees can be artificially produced by the application of vesicants.

By the *third degree* is designated that intensity of a burn in which the deeper situated soft parts are reached, and gangrene follows. This degree is always attended with the free production of pus, and the wound heals by the formation of granulations.

This division is made with relation only to the intensity of the burn. In regard to the extent of surface involved, it is worthy of note, although very little explained by physiological research, that it only requires two-thirds of the body surface to be burnt in order to secure certain death, with symptoms of dyspnœa and collapse.

Treatment must be directed entirely to the alleviation of pain, as the formation of skin cannot, in any way, be accelerated.

In the present case, after puncturing the larger vesicles, and empyting their contents, the forearm was enveloped in cotton.

Other methods consist in application of cold compresses, or in smearing the burnt surface with oil, in order to lessen pain. With collodion, which has been recently highly recommended, Prof. Billroth has obtained no favorable results. He succeeds very well, however, in burns of the third degree by compression of the burnt part with strips of sticking plaster, or by application of compresses, saturated with a one per cent. solution of argentum nitric.

The New York County Medical Societies and the New York Code.—The Chenango, Warren, Schoharie, Oswego, Montgomery, Westchester, Genesee, and Wyoming County Medical Societies are the latest to formally condemn the new Code.

The Public Health.—For the *week ending June 10*, there were 25 deaths from *small-pox* in New Orleans, the greatest number reported in any one week since the beginning of the present epidemic. There were 4 deaths from the same cause in Hudson County, N. J., and 2 each in Pittsburg and San Francisco. From *cerebro-spinal meningitis*, there were 7 deaths in Buffalo; from *scarlet fever*, 7 deaths in Buffalo, and 6 each in Hudson County, N. J., and St. Louis; and from *typhoid fever*, 4 deaths in Charleston.

For the *week ending June 17*, the following causes of death may be noted:

Small-pox.—There was a decrease in the mortality from this disease in Cincinnati and New Orleans. The deaths for the week were as follows: New York City, 6; Philadelphia, 4; Hudson Co., N. J., Pittsburg, and Detroit, each 1; Cincinnati, 37; Indianapolis, 2; Louisville, 3; and New Orleans, 15. There were two new cases reported in Buffalo; 5 in Pittsburg; and one each in Louisville and Nashville.

Cerebro-spinal Meningitis.—There were 9 deaths from this cause in New York City; 1 in Philadelphia; 3 in Hudson Co., N. J.; 5 in Buffalo; and 2 in Providence.

Diphtheria.—New York City reports 24 deaths from diphtheria; Philadelphia, 17; Brooklyn and Hudson Co., N. J., each 4; Boston, 7; Pittsburg, 6; Milwaukee, 5; and Cincinnati and St. Louis each 2 deaths.

Scarlet Fever.—There was a very marked falling off in the deaths from scarlet fever in New York City. The deaths for the week were as follows: New York City, 31; Philadelphia, 11: Brooklyn, 17; Hudson Co., N. J., 8; Boston, 3, and 13 new cases; Cincinnati, 9; St. Louis, 8; Detroit, 3; and Nashville, 2.

Measles.—From this disease there were 21 deaths in New York City; 1 in Philadelphia; 4 each in Brooklyn and Pittsburg; 3 each in Hudson Co. and St. Louis; 6 in Buffalo; and 2 each in Cincinnati and Milwaukee.

Whooping-cough.—New York City reports 13 deaths from this cause; Brooklyn, 6; Charleston, 3; and Pittsburg, 2. Elsewhere, no prevalence of the disease.

Consumption and Pneumonia.—There were 91 deaths from consumption in New York City; 38 in Philadelphia; 28 in Brooklyn; 29 in Boston; 18 in the District of Columbia; 11 in Cincinnati; 15 in New Orleans; 9 in St. Louis; 8 in Hudson Co.; 7 in Providence; and 6 in Buffalo. From pneumonia, there were 55 deaths in New York City; 35 in Philadelphia; 22 in Brooklyn; 10 in Hudson Co., N. J.; 14 in Boston; 8 each in Pittsburg and Cincinnati; 5 each in Providence and St. Louis; 4 in New Orleans; and 3 each in the District of Columbia and Pittsburg.

For the *week ending June 24th*, there were 4 deaths from *small-pox* in New York City and 4 in Philadelphia; 1 case reported in Boston; 29 deaths in Cincinnati; 5 new cases in Louisville; 1 death in Nashville. *Diphtheria* caused 37 deaths in New York City; 13 in Philadelphia; 14 in Boston and 39 new cases; and 2 in Cincinnati. From *scarlet fever* there were 39 deaths in New York City; 10 new cases and 1 death in Boston; and 8 deaths in Cincinnati. *Typhoid fever* caused 20 deaths in Philadelphia during the week. *Measles* and *whooping-cough* still prevail in New York City, but not to any great extent. The advent of warm weather has already had the effect of decreasing the number of deaths from acute lung affections; at the same time it has increased the mortality from diarrhœal diseases, but not to any great degree. Thus far this season there has not been any prolonged period of excessively hot weather in any portion of the country, and, consequently, infant mortality is not reported as excessive in any place, the death-rate from this cause being lower than it usually is at this season of the year. Excessive infant mortality will probably not occur before the second week in July, as the heated term has just commenced. It is sure to succeed the first week or two of very hot weather, and continue with fluctuations through the summer.

Health in Michigan.—Reports to the State Board of Health, for the week ending June 17, 1882, indicate that neuralgia, diarrhœa, and measles, have increased.

and that remittent fever and influenza have decreased, in area of prevalence.

Small-pox was reported present during the week ending June 17, and since, at 7 places, as follows: at Port Huron (one immigrant, convalescent), June 11; at Kalamazoo (two cases, convalescing), Detroit, Flint, and at Wayne County Pest House; at Grand Rapids (three during week ending June 17, three new cases June 21); at Battle Creek (one new case), June 22, 1882.

PROTECTION FROM INFECTION.—A meeting of representatives of the National, State, and Local Boards of Health was recently held in Port Huron, Michigan, at which the following resolutions were adopted:

Resolved, That we deem it important that a system of immigration inspection shall be immediately inaugurated, which shall apply to all trunk lines of railroad carrying immigrants, to prevent the introduction of smallpox into the United States and from one State into another.

Resolved, That the National Board of Health be requested to advise and co-operate with and through the State boards of health, and the several local authorities of health whenever it may be considered advisable to carry out a proper system of inspection and control of all persons travelling through the several States, with reference to the limitation of small-pox.

Resolved, That the National Board of Health be requested to erect or otherwise provide and furnish on the borders of States, as may be required, such temporary buildings as may be necessary, and provide for the care and maintenance of persons on emigrant trains suffering from small-pox, when committed to these hospitals.

Resolved, That, inasmuch as a considerable number of the immigrants coming into the United States or passing through them, necessarily travel through the Dominion of Canada, we do cordially invite the co-operation of the Canadian authorities in inaugurating a system of inspection of such immigrants in order to prevent, as far as possible, the spread of small-pox.

Resolved, That this conference commend the action of such transportation companies as have established a system of inspection and the issuing of protection cards and earnestly request all other steamship companies engaged in transportation to co-operate with local and other inspectors of emigrants in transit as a means of suppressing the spread of small-pox.

Resolved, That this conference is gratified to learn that many railway lines have already pledged co-operation in efforts of inspection, and we earnestly request all other railway trunk lines engaged in the transportation of immigrants to co-operate in inspection and the enforcement of regulations looking to the limitation of small-pox.

Resolved, That it is desirable that this system of immigrant inspection shall begin generally throughout the country by June 1, 1882.

THE NATIONAL BOARD OF HEALTH.—At the annual meeting of the National Board, held June 23d, the following officers were elected for the ensuing year:

President.—Dr. James L. Cabell, of Virginia.

Vice-President.—Dr. Stephen Smith, of New York.

Secretary.—Dr. Thomas J. Turner, Medical Director, U. S. N.

Executive Committee.—The above named officers, with Samuel F. Phillips, Esq., Solicitor-General; Dr. John S. Billings, Surgeon, U. S. A.; and Dr. P. H. Bailhache, U. S. M. H. S.

CENTRAL COMMITTEE OF THE ALUMNI OF THE UNIVERSITY OF PENNSYLVANIA.—The following gentlemen were elected on commencement day to represent the Medical Department in the Central Committee: John F. Meigs, M.D., John H. Packard, M.D., Caspar Wister, M.D., Samuel Ashhurst, M.D., I. Minis Hays, M.D., Albert H. Smith, M.D., William H. Van Buren, M.D., Traill Green, M.D., Claudius H. Masten, M.D., William H. Klapp, M.D. The committee met for organization last Wednesday.

NEW PARASITES.—We have before us a clipping from the editorial columns of a daily paper in which the recent investigations of Koch are humorously referred to. The editor then goes on to state that, "While Germany has thus given to the world a discovery of presumably vast importance, Wisconsin has not been idle. Dr. Buhl, a distinguished physician of that State, has just made a discovery as to the origin and proper treatment of broken legs which is, on the whole, rather more valuable than the discovery of Prof. Koch. It has long been noticed that broken legs prevail in thickly settled parts of the country much more generally than in thinly settled regions. It is also undeniable that wherever railroads penetrate broken legs soon become common. These facts are sufficient to enable us to assume that there is something in thickly settled regions that is favorable to the development of broken legs, and that this something—whatever it may be—is carried far and wide by railway trains. Dr. Buhl, who is an ardent believer in the germ theory of nearly all diseases, claims that he has discovered a vegetable parasite which infests the human trousers and causes broken legs. Within the past year he has examined with the microscope thirty-six cases of broken leg, and in every case has found this parasite in the accompanying trousers. In the course of the last six months he has placed garments cut after the manner of trousers and inoculated with the parasite in question upon the fore legs of eighteen cats, thirteen of whom were afterward found in a steel trap, set for the purpose in the doctor's back yard, each with a fore-leg broken. He also tried a similar experiment upon seven cows belonging to his wife, six of whom were afterward run over by railway trains—the White River and Sheboygan Railroad running directly through the cow pasture—and sustained compound fractures of more or less of their legs.

"Having thus fully established the fact that broken leg is produced by a parasite infesting the trousers, Dr. Buhl maintains, with much plausibility, that by inoculating human trousers with this parasite after it has been artificially bred in trousers supplied for the purpose to cattle, men will be fully protected against broken legs. So far as the non-scientific mind can perceive, the Doctor's plan is an admirable one. If we can by so simple a measure as the inoculation of trousers put an end to the wide-spread havoc yearly wrought by broken legs, humanity will owe to Dr. Buhl a debt which it can never repay, and the name of Buhl will be inscribed on all sorts of monuments by the side of the equally revered names of Koch and Jenner."

A GOVERNMENT ANIMAL VACCINE ESTABLISHMENT.—The British Local Government Board has just opened an establishment in London for animal vaccination with stables for the housing of the calves. Every precaution is taken that the calves shall continue in good health while they are resident in the institution. That they should be absolutely free from every blemish is most important, for apart from the question of the impropriety of using any but healthy animals, the fact remains that the least disturbance to the health of the calf materially interferes with the development of the vesicles. The calves are carefully selected, and those between four and six months old are found best to answer the purpose; if very young, they do not bear

well the change of food attendant upon their removal from the mother, and if too old, are difficult to manage on account of their size and strength. They are received at a fixed hour every Monday afternoon, and are carefully inspected by a veterinary inspector of Her Majesty's Privy Council before being admitted into the stables. Provided they pass this examination, they are then weighed and placed in their stall; here they remain under observation while awaiting inoculation. When ready to be vaccinated the calf is taken into the operating-room and placed upon the table, the top of which is arranged so that it turns upon hinges and is at first at right angles to the floor. When the calf enters the room it is again weighed, and then placed against the table in this position, and a strap is passed round its body and the top of the table; the latter is then placed in its ordinary position and retained there by bolts, the calf being by this movement raised upon it. The legs of the animal are then seized, one hind leg is strapped to an upright iron bar fixed to the table, the other in a horizontal direction, the forelegs and head are then secured, and the abdomen is thus thoroughly exposed. The latter is carefully shaved, and the lymph is inserted by means of a number of superficial incisions with a tenotomy knife charged with lymph. The lymph is either taken from tubes or directly from another calf; if from a calf, the vesicles are pinched up by curved sliding forceps, the crust wiped off, and one or two longitudinal incisions made into the vesicle to allow the lymph to escape. Lymph is in this way taken for the immediate vaccination of patients, or on points or in tubes, for future use, or for the vaccination of the next calf. The calf which has just been vaccinated is, on returning to the stable, provided with a cradle to prevent it licking the vesicles. This it wears until its own turn comes to supply the lymph, after which, of course, the cradle is no longer necessary.

The following arrangements have been made for the vaccination of patients visiting the institution. At half-past ten every Saturday a calf is vaccinated to supply lymph five days afterwards—that is, the following Thursday, when patients come at the same hour to be vaccinated; on Thursday lymph is also sent to the National Vaccine Establishment at Whitehall, and some is used for the direct vaccination of another calf, which, in its turn, is ready on the following Tuesday, at the same hour, to yield lymph for the purposes of further vaccination. The lymph at present in use is derived from a case of spontaneous cow-pox discovered near Bordeaux at the end of last year.

GEORGIA MEDICAL COLLEGE.—Drs. Lewis D. Ford and L. A. Dugas, two of the founders of the college, and for over fifty years members of its Faculty, have resigned. The Board of Trustees passed the following resolutions proposed by the Faculty.

Resolved, That, without debate and in response to the expressed wishes of Prof. Lewis D. Ford and of Prof. Louis A. Dugas, we accede to their relinquishment of the active duties of their Chairs, of the Practice of Medicine and of Surgery respectively, so long and so acceptably performed by them.

Resolved, That we unanimously recommend them for, and urge their acceptance of, Professorships *Emeriti* in their respective departments.

Resolved, That earnestly desiring to enjoy still the benefit of their wise and experienced counsel and of their influence in behalf of our venerable institution, we urgently request that they retain their membership in the Board of Trustees.

Resolved, That in their well-earned retirement and well-deserved rest, our revered colleagues will continue to hold, not only our warm affection and good wishes for their happiness and long continued welfare, but also that, for their part in the founding of this valuable institution of learning, and for their labors and watchful care of that institution in the promotion of the best interests of the medical profession, and of humanity which, with one other, they have continued for a period of half a century, they well deserve the respect and the gratitude of both the present and of the future generations.

SYRACUSE UNIVERSITY.—The commencement exercises of the College of Medicine of Syracuse University, New York, were held on Thursday evening, June 8. Eleven gentlemen were graduated, after having followed the graded course of that institution for three years of nearly nine months each. The address to the graduates was made by Dr. Wm. S. Ely, of Rochester, N. Y.

UNIVERSITY OF PENNSYLVANIA, MEDICAL DEPARTMENT.—At the Annual Commencement in June, the degree of M.D. was conferred on 5 candidates, making, with the 117 graduates in March, 122 for the collegiate year.

THE FRENCH ACADEMY.—For the vacancy in the Section of Anatomy and Physiology of the French Academy of Medicine, caused by the death of M. Moreau, the Section presented the list of candidates in the following order: MM. Mathias Duval, Ch. Richet, Laborde, and Farabeuf. Of the seventy-six Academicians present, M. Duval received the votes of fifty and was consequently elected.

DIED.—CARL HUETER, Professor of Surgery in Griefswald. Prof. Hueter was born in Marburg on November 27, 1838, in 1863 was one of Virchow's assistants, and for five years was an assistant to v. Langenbeck, when he was called as Professor and Clinical Teacher to Rostock, only in the next year to be summoned to Greifswald as successor to Bardeleben, a position which he held up to the time of his death. Hueter is best known as the author of a valuable treatise on "Diseases of the Joints," and the writer of the papers on Pyæmia and Septicæmia in Pitha-Billroth's "Handbook of General Surgery."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 20 TO JUNE 26, 1882.

HOFF, J. V. R., *Captain and Assistant Surgeon.*—Having reported at these headquarters, is assigned to duty as Post Surgeon at Alcatraz Island, California.—*S. O. 107, Military Division of the Pacific and Department of California, June 17, 1882.*

DE LOFFRE, A. A., *Captain and Assistant Surgeon.*—Relieved from further duty at Fort Wallace, Kansas, and assigned to duty at Fort Sill, Indian Territory.—*S. O. 124, Department of the Missouri, June 21, 1882.*

BANISTER, J. M., *First Lieutenant and Assistant Surgeon.*—When relieved by Assistant Surgeon De Loffre, to proceed to camp of Ninth Cavalry, near Castonment, on the Uncompahgne River, Colorado, and report to the commanding officer for duty.—*S. O. 124, Department of the Missouri, c. s.*

NOTSON, Wm. M., *Major and Surgeon.*—Died at Columbus Barracks, Ohio, June 23, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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ORIGINAL LECTURES.

A CLINICAL LECTURE ON PNEUMONIA.

Delivered to the Clinical Class in the Mercy Hospital of Chicago, May, 1882.

BY N. S. DAVIS, M.D., LL.D.,

PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE IN THE CHICAGO MEDICAL COLLEGE, AND SENIOR PHYSICIAN TO THE MERCY HOSPITAL.

(Reported for THE MEDICAL NEWS.)

(*Concluded from p. 3.*)

Symptoms and Diagnosis.—As practitioners of medicine, you are already familiar with the general symptoms of the disease under consideration, and I need not occupy your time in recounting them. I will, therefore, mention only those which, in connection with the physical signs, are diagnostic of the disease in the several stages of its progress. The commencement of the first stage is generally marked by a chill or chilliness accompanied by deep-seated pain and sense of oppression in one side of the chest; and its progress is indicated accurately by general fever with continuance of pain and oppression in some part of the chest coincident with the ready recognition, by auscultation, of the fine dry crepitant râle, and slight increased fremitus of voice; some cough with, at first, a very scanty viscid expectoration, but, which gradually increases, and after the first twelve or eighteen hours usually shows a slight intermixture of blood. During the transition from the first to the second stage, while exudation is going on actively, the fever heat increases, the expectoration becomes more mixed with blood, the dulness on percussion and fremitus of voice increase, and the fine crepitant râle gives place to one coarser and moist, called sub-mucous. When the second or exudative stage is fully developed, and the red hepatization is complete, the general fever is at its climax, the crepitant râle has entirely ceased, giving place to the ordinary mucous râle, and decided dulness on percussion over the inflamed parts. This condition, which constitutes the climax of the disease, is usually reached between the fourth and seventh days from the initial chill. During the next two or three days, in those cases which terminate by resolution, the general febrile symptoms rapidly decline, the temperature in some falling even below the standard of health; blood disappears from the expectoration; urinary secretion becomes more abundant; breathing slower and fuller; dulnes on percussion diminishes; and in some instances as the air cells first begin to reopen a return of the fine crepitant râle may again be heard at the end of the inspiratory act for one or two days. In such cases convalescence is usually well established in from seven to eleven days from the commencement of the attack. When the disease does not terminate by resolution, but has its second stage pass into a third, during which the exudative material is undergoing either purulent or caseous degeneration, the febrile symptoms, though modified in severity, are liable to continue one or two weeks longer, and the physical signs of the second stage to be equally protracted.

Treatment.—The indications to be fulfilled, or the special objects to be accomplished, in the treatment of pneumonia, vary with each successive stage in the progress of the inflammation.

In the first stage, characterized by increased excitability of texture and intense engorgement and distention of vessels, the plain indications are to allay the excitability and lessen the vascular fulness, and in the same ratio that we succeed in fulfilling these, will we lessen the amount of exudation and hepatization which is to constitute the second stage. When the latter has already supervened, however, then your leading objects must be to hasten the disintegration and promote the reabsorption of the exudative material, thereby inducing resolution before suppuration or caseous degeneration should supervene. If the latter processes do make a fair beginning, constituting the third stage, or that of gray hepatization, your main objects must be to lessen the degenerative processes and sustain the nutrition and strength of the patient. Such are the rational indications for treatment founded on the important pathological conditions present in each successive stage of the disease; but the particular means most efficient for accomplishing the several objects named, as well as the time and manner of their use, will be materially influenced by certain coincident conditions relating chiefly to the quality of the blood, and the general tonicity of the tissues. For while it is true that morbid excitability and accumulation of blood are constant elements or factors in the first stage of all acute inflammations, it must be remembered that the blood which thus accumulates in one case may differ much in its *quality*, and the relative proportion of its constituents, from that which accumulates in another case. So also the coexisting status of the vital affinity of the tissues, which regulates the molecular movements and general tonicity, may vary much in different cases. The composition and quality of the blood, and the vital affinity of the tissues, must be regarded, therefore, as the *variable* elements or factors in all stages of the inflammatory process. For instance, if a patient when attacked with pneumonia, has good plastic blood and an active vital affinity giving to all his tissues a good degree of tonicity, his case will present all the characteristic symptoms of an active sthenic grade of inflammation. On the other hand, if the patient when attacked had already been exposed to malarial influences until his blood was more or less impoverished of its red corpuscles, and nutritive constituents, with laxity of tissues; or if he had been living in the impure air of overcrowded dwellings, or in the midst of other conditions favoring typhoid developments, until the plasticity of his blood and the tonicity of his tissues were both impaired, his case would present all the characteristic features and tendencies of an asthenic inflammation. Again we have seen patients attacked with inflammation caused by the presence in the blood of some specific virus or contagium, the presence of which so modifies the symptoms and progress of the inflammation as to differ much from the ordinary sthenic or asthenic varieties. While it is true, therefore, that it is desirable to allay the irritation and lessen the vascular fulness in the first stage of all acute inflammations, whether sthenic, asthenic, or specific, yet the means for accomplishing these results most efficiently will differ much in the several varieties. Morbid susceptibility or irritation may be allayed by anodynes, anæsthetics, and sedatives; and vascular fulness may be diminished by lessening the quantity of blood in the vessels as by venesection, by increasing the contraction of the vessels themselves, through the influence of the vaso-motor nerves, and by lessening the action of the heart in forcing the blood into the vessels.

A careful examination of the actual clinical results obtained in the management of acute inflammatory affections during the last half century shows that in the first stage of the active sthenic grade of pneumonia one prompt and decisive venesection, followed by such cardiac sedatives as will lessen the force and frequency of the heart's action, is not only the most efficient mode of relieving the vascular fulness, and thereby limiting the amount of subsequent exudation, but it has been followed by the highest ratio of recoveries. In the same stage of those cases occurring in patients whose blood is already diminished in plasticity, and vessels more or less relaxed from malarious influences, from two to three decigrammes (gr. iij to v) of sulphate of quinia, given every two or three hours, alternately, with some mild cardiac sedative and alterant, will often as effectually check the vascular fulness as will the bleeding in the purely sthenic cases. In those cases, however, occurring in patients who are living in the midst of sanitary conditions strongly predisposing to attacks of typhoid or typhus fevers, the adjustment of remedies to meet the indications in the first stage is more difficult. In such patients direct depletion by bleeding is seldom borne without positive injury, and quinia frequently fails to produce the effect desired. When called to this class within the first twenty-four hours after the initial chill, I have usually ordered six powders, each containing sulphate of quinia 0.200 gramme (gr. iij); calomel, 0.066 gramme (gr. j); sanguinariæ, pulverized, 0.033 gramme (gr. ss); and glycyrrhiza, pulverized, 0.066 gramme (gr. i); one to be given every four hours, and four cubic centimetres (fl. ʒj) of the following mixture between:

℞. Liquor ammoniæ acetatis, 60 c.c., . . ʒij.
Tinct. opii et camph. 60 c.c., . . ʒij.
Tinct. aconiti rad. 4 c.c., . . ʒj.—M.

At the same time cover the whole affected side of the chest with a linseed-meal poultice; and if the skin is hot and dry, have all the surface not covered by the poultice frequently sponged with milk-warm water. As soon as the six powders have been taken, if the bowels have not moved spontaneously, they should be induced to move by an enema or a mild laxative. That the distinctions I have made in regard to the modifications or grades of pneumonia, and the variations which they require in the choice of remedies for fulfilling the indications presented in the first stage of the disease, are neither theoretical nor fanciful, but such as actually confront us at the bedside of our patients, I have had abundance of evidence in my own clinical experience.

From 1837 to 1847, I was practising in a hilly, rugged region, free from malaria, and supplied with pure air and good water, in the interior of New York, near the northern line of Pennsylvania, where the winters were cold, and during which attacks of pneumonia, pleurisy, bronchitis, and rheumatism were frequent, and uniformly of the sthenic type. In every case, when called during the first stage of the disease, I bled freely once and sometimes twice, and gave internally sedative doses of *tartar emetic*, alternately, with alterative and anodyne doses of calomel and Dover's powder.

The relief to the patient was always well marked, and sometimes so decisive as to render the amount of exudation in the second stage unimportant, and to enable the patients to be up and dressed, with all the indications of complete convalescence on the fourth and fifth days. In the spring of 1847, I moved to the city of New York, where, during a residence of little more than two years, I saw but few cases of pneumonia, and those among the poor surrounded by bad sanitary conditions.

In the autumn of 1849, I came to this city, then without sewers, and only a small part of it supplied with lake water. Yet the tide of immigration was such that every boarding-house was over-crowded, and we had an abundance of the idio-miasms added to the malaria naturally prevalent in the locality. Here, during the succeeding ten years, I had a rare opportunity for studying the modifying effects of malaria and the causes favoring typhoid fever on all the acute inflammations, both in their separate action and in all degrees of their commingling. I saw, during the latter part of winter and early spring of each year, many cases of pneumonia very promptly relieved by the free use of quinia in the first stage; while in other cases more strongly influenced by the causes of typhoid diseases, the quinia either produced but little apparent effect, or else added much to the dulness of hearing and stupidity of the mental faculties generally; and occasionally a case confronted me with all the characteristics of the sthenic type as strongly as I had seen at an earlier period in the interior of New York, and in which a prompt and full venesection had the same beneficial effects. In a few of the more severe attacks of pneumonia under strongly malarious influences, I have seen much benefit from one very early and free bleeding, followed by quinia in efficient doses. But I have never seen benefit from blood-letting in cases occurring in the midst of such sanitary conditions as decidedly favor the development of typhoid or typhus fevers. In the winter of 1850–'51, in a well-marked case of this variety, I opened a vein in the arm for the express purpose of ascertaining experimentally what the effect would be. Decided indications of syncope came before I had taken an ordinary *teacupful* of blood, and I was obliged to tie up the arm and administer carbonate of ammonia and camphor as restoratives. I have called your attention to the treatment of the first or congestive stage of pneumonia thus fully, because it is only in this stage that measures designed for directly lessening the vascular fulness, and consequently rendering the subsequent stages milder and shorter, can be used with benefit to the patient. When exudation has already taken place, and the second stage of the disease is fairly developed, further depletive and sedative measures are useless and generally injurious. In this stage, the continuance of poultices over the chest, and in some cases the addition of a blister, and the administration of alterant, anodyne, and expectorant mixtures, and mild nourishment, will constitute the treatment best calculated to promote resolution and prevent either purulent or caseous degeneration. The following is one of the best alterant, anodyne, and expectorant combinations that I have used:

℞. Ammoniæ muriat. 12.00 grammes, . ʒiij.
Ant. et pot. tart. 0.13 " . gr.ij.
Morph. sulph. 0.20 " . gr.iij.
Syrupi glycyrrhizæ, 130.00 c. c., . . ʒiv.—M.

Four cubic centimetres (fl.ʒj) may be given to an adult every three or four hours, mixed with a tablespoonful of water. If the urine is scanty, a mixture of two parts of liquor ammoniæ acetatis, two of spirits of nitrous ether, and one part of tincture of digitalis, may be given in doses suited to the age of the patient, half way between the doses of the other mixture. In most cases from two to three decigrammes (grs. iii to v) of quinia may be given with benefit, three times a day, until convalescence is established. There are some other items in the management of pneumonia to which I would like to allude, but the clinic hour is passed, and I must close for the present.

ORIGINAL ARTICLES.

THE TONSILS AND PHARYNGEAL IRRITATION.

BY HARRISON ALLEN, M.D.,
PROFESSOR OF PHYSIOLOGY IN THE UNIVERSITY OF PENNSYLVANIA.

THE tonsils have been for the most part studied only when they have obstructed the pharynx; for the relations between such obstructions and the acts of breathing, swallowing, and speech are so manifest, that those who run may read. These curious bodies, however, when not of sufficient size to create obstruction, have been ignored as possible causes of other phases of pharyngeal distress.

The following cases are presented as instances of pronounced trouble, arising from slight, but persistent, irritation from the tonsils and the allied bodies situated at the side of the pharynx.

CASE I.—Z., aged twenty-eight, contracted a cold eight years before, which had persisted up to the date of coming under treatment.

The symptoms at this time were: dropping of mucus, fulness in the back part of the throat, and pains in the chest. No symptoms were referred to the nose. Excessive quantities of mucus were constantly raised by gentle regurgitant acts from the laryngo-pharynx. It appeared to well up as from an inexhaustible receiver. Examination was made difficult, for when the mouth was kept open for a short time the fluid trickled into the larynx, producing a spasmodic cough which was very distressing.

The patient, a student of pharmacy, had the appearance of being overworked and underfed. The mucous membranes were pale, the edges of the folds and of the uvula were grayish and translucent. No infiltration anywhere existed. The lips were covered with whitish patches resembling the mucous patches of syphilis, but the existence of this taint was in no way confirmed by other signs, or by the history of the case. The patient did not use tobacco in any form.

This case was treated after approved methods; by spraying, local applications of astringents, by constitutional remedies, etc., for a month without benefit. At the end of this time a renewed careful examination revealed a small nodule lying on the left side of the pharynx below the tonsil. It was suspected as the source of irritation, and after three applications of the electro-cautery was destroyed. The symptoms were at once improved, and have now almost ceased.

CASE II.—Y., aged thirty-five, a bookkeeper, of spare habit, came under observation complaining of constant hacking and irritation of the throat, although no mucus was expelled by his efforts. The symptoms were of an aggravated, almost choreic, character. The throat was relaxed and flabby.

The uvula had been amputated by a practitioner in an abortive attempt to relieve the distressing condition. The case was under observation for a fortnight without relief, when the condition of the tonsils was suspected as a possible factor in the causation of the symptoms. These had not been noted in the previous casual examination of the oro-pharynx, for the reason that they were concealed within exceptionally deep tonsillar spaces. The relaxed palato-glossal and palato-pharyngeal folds had reduced these to inconspicuous chinks. Careful examination revealed on each side of the throat pea-like masses of indurated tonsil, pressing backward against the palato-pharyngeal folds. These bodies were destroyed by successive applications of the electro-cautery, and, after the subsidence of the inflammation caused by its use, the symptoms disappeared. Six months have elapsed since the treatment and the patient remains comfortable.

CASE III.—Miss O., aged twenty-four, suffered from irritation of the throat, referred to the right side. She complained of a sense of fulness, and her breath was exceedingly fetid. She reported for the last-named condition, which rendered her morbidly sensitive and almost excluded her from society. The disease had lasted three years, having been treated without permanent benefit by her family attendant, and by a prominent specialist in a neighboring city.

Careful examination revealed the palato-glossal fold stretched out as an operculum over the left tonsillar space and almost touching the palato-pharyngeal fold. When this opercular fold was drawn forward a number of tonsillar pellets were seen lying against the face of a flattened nodular tonsil, and the true nature of the case was at once evident. A diseased tonsil threw off the solid fetid pellets which are characteristic of this body, but owing to the peculiar disposition of the palato-glossal fold, they were retained in contact with the face of the gland instead of being ejected.

The opercular fold was removed with a pair of blunt curved scissors, the parts washed with a weak carbolic acid lotion, and the surface of the tonsil cauterized with the electro-cautery. The trouble at once disappeared and has not since returned.

CASE IV.—Miss X., aged thirty, referred to me by my friend Dr. Charles H. McCall, had been subject for years to neurasthenia, which had resisted the rest treatment and all other improved methods, until relief was at last obtained through the removal of the ovaries by Battey's operation. Among other symptoms accompanying the neurasthenia was a disposition to laryngeal catarrh, which would follow slight and apparently insufficient causes, such as a little fatigue, a slight change of temperature, or an attack of indigestion. There was also a sense of fulness referred to the region of the pomum Adami and the hyoid bone. She was excessively self-watchful and neurotic. Battey's operation had relieved the neurasthenia, but the pharyngeal symptoms persisted.

The throat was capacious, the palatal folds without infiltration, the tonsils were small, and did not press upon the palato-pharyngeal folds. The palato-glossal folds were not tense nor stretched over the tonsils. The parts were excessively irritable, and required careful training before the lower part of the pharynx could be exposed. The examination of this region revealed on the right side a red cock's-comb-like body, lying in the pharyngo-epiglottidean fold and projecting against the edge of a large epiglottis. The larynx was normal. The symptoms were entirely removed by applications to

the swelling just named. The electro-cautery was used upon small surfaces at a time, twice weekly for a month, great pains being taken to avoid inflammatory œdema of the glosso-epiglottidean space.

CASE V.—Mr. W., aged twenty-four, of fair complexion and with reddish hair, had contracted scarlet fever in childhood, and since that time had suffered from repeated attacks of tonsillitis. He contracted nasal catarrh in 1877, which was characterized by a semi-purulent discharge. This was shortly followed by symptoms of pharyngeal irritation, such as constant hacking, etc. There was a copious flow of perfectly normal mucus from the nasal passages, causing distressing efforts to dislodge it. Examination of the nose showed a slight deflection of the septum to the left, reddened membranes, and a thin, amber-colored crust overlying the under surface of the right middle turbinated bone. On the right side of the septum, at the premaxillary portion, was a small superficial ulcer which was occasionally the seat of moderate bleeding. Examination of the oro-pharynx showed intense hyperæmia, but no inflammatory thickening. The palato-pharyngeal folds were œdematous, and the velum elevated. The palato-glossal folds were relaxed and dusky, while the tonsillar spaces were concealed by two broad opercular bands. No view of the naso-pharynx was obtainable. The patient had been under medical care, without benefit, ever since the beginning of the pharyngeal distress, nearly four years before.

Under a treatment which consisted of spraying the pharynx, the use of gargles, and the administration of tonics, the nasal symptoms almost entirely ceased, and gave no annoyance. At subsequent visits, the naso-pharynx was successfully explored, but it exhibited no abnormal conditions whatever. Under the impression that a local cause of irritation was, however, somewhere present, the throat was again thoroughly explored. The tonsils were found to be mammillated and concealed by the palato-glossal and palato-pharyngeal folds. They were retroverted, so that their rugose, reddened surfaces were in contact with the swollen palato-pharyngeal folds, and it was accordingly suspected that here was the cause of the distress. Four free applications of the electro-cautery, at intervals of three days, completely removed the symptoms, and the hyperæmic appearance of the pharynx totally disappeared. The treatment was interrupted by an attack of acute rheumatism, but the patient reported again, after an absence of six weeks, so completely relieved that no further attention was necessary. It is of interest to note in this case that not only did the hacking and the flow of mucus cease, but the velum no longer remained elevated, nor did the middle turbinated bone throw out a plastic discharge. The tonsil, in a word, had not only kept the pharyngeal surfaces in a state of irritation, but had given rise to other symptoms which are usually traced to a different source.

The conclusion to be drawn from the above cases is simple enough. Pharyngeal irritation is often associated with a concealed tonsil or an infra-tonsillar gland, fretting the parts in their immediate neighborhood.

NOTE.—It is mentioned in the paper above that the pharyngeal irritation was associated with nasal disease due to obstructions. I have, in another place (*Amer. Journ. of Med. Sci.*, Jan. 1879), pointed out the causes frequently found in such cases, and the necessity of removing the projections from the nasal septum before recoveries can be established. It is now my custom, when the obstruction is in the premaxillary portion of the nose, in addition to filing or drilling away the osseous spurs or malformed sutures, to reset the triangular cartilage by detaching the inferior border from the triangular notch, to push the cartilage over to the larger side, and then drill or file away the projecting maxillary spur. This procedure I have now practised in eight cases, with very gratifying results.

OPIUM POISONING, FOLLOWED BY PNEUMONIA.

ARE STRIPPING, FLAGELLATION, VIOLENT EXERCISE, AND DOUCHING NECESSARY?

BY A. B. ISHAM, M.D.,
OF CINCINNATI, OHIO.

CASE I.—Mrs. B., æt. forty-four, was under treatment by Dr. S. C. Ayres, as a specialist, for catarrhal ophthalmia. The Doctor visited her the morning of the 3d of March, 1882, when he found her unconscious; she could not be aroused, the pupils were contracted to a pin's point and immobile, the respirations about two per minute, the pulse very rapid and feeble; the skin cold, clammy, and livid, and the attendants dragging her around, and slapping her vigorously with the palms of the hands. He learned that the previous evening she had suffered some neuralgic pains in the globe of the right eye, for the relief of which she had called in a homœopathic physician, who, within a period of ten minutes, administered two hypodermic injections of morphia, the amount of which it was stated he did not know, since he had carried the solution for six months, and had forgotten its strength. Dr. Ayres at once injected subcutaneously $\frac{1}{24}$ of a grain of sulphate of atropia, and declined further connection with the case, unless the medical attendant who had caused the trouble was discharged, and some one else called in with whom he could counsel. As the family could not at once decide to accede to his proposals, the Doctor took his departure, but yielded so far to entreaties as to promise to call in the evening and look at the patient. Accordingly at the evening visit the condition appeared yet of such gravity that his demands were yielded to, and, at his instance, I was called in to take charge of the case. On arrival, I found the patient clothed only in a thin wrapper and undergarment, which were both thoroughly saturated by the spilling of coffee, tea, brandy, milk, and water, in the attempts which had been made from time to time to pour these liquids down her throat. For twenty-four hours she had been incessantly moved about in a cold atmosphere, in rooms with windows open, and been slapped with the hands from head to foot. The atropia injection of Dr. Ayres was really about the only potent measure toward antagonizing the action of morphia which had been employed.

The pulse was 110 and weak, respirations 8 to the minute and sighing; the skin was cold, clammy, and livid; the pupils were contracted to a pin's head, yet they nevertheless exhibited the faintest sign of response to light. She was capable of being aroused, and could recognize persons. The symptoms of exhaustion seeming the most marked, it was directed that the clothing should be changed, and the subject placed in bed; stimulants were administered, and mustard plasters applied to the abdomen, legs, and feet

March 4, 7 A.M.—Patient fully conscious, respiration 23, pulse 110, temperature 102°. Coughing. Has bluish-black bruises all over the surface, everywhere; she is very sensitive to the touch, and complains greatly of soreness and exhaustion. 9 P.M., cough very distressing, temperature 102⅘°, pulse 122, dulness and crepitation at lower portion of right lung, front and back.

5th.—Rusty colored, thick, tenacious sputum; expectoration scanty and difficult; subcrepitant and fine mucous râles; temperature 104°, pulse 125. The pneumonia thus inaugurated pursued its course, and the patient was discharged convalescent March 23.

For the next case I am indebted to the courtesy of Dr. Wm. Carson, to whose service at the Cincinnati Hospital it pertained. The notes were supplied by Mr. Walter Christopher, under-graduate resident physician.

CASE II.—Victor Crook, French; æt. 40; barber; poorly developed and nourished; residence Urbana, O. Came to the hospital in the patrol wagon about 9 P.M. of March 30. Pulse rapid and full, respiration ceased, temperature about normal, face slightly cyanosed, pupils contracted to size of a pin-head, muscles completely relaxed, and unconscious. Administered at once $\frac{1}{16}$ grain of atropia hypodermically, and commenced artificial respiration. Within a half hour another $\frac{1}{16}$ grain of atropia was injected. In addition to carrying on artificial respiration by Silvester's method, flagellation of the chest with wet towels was employed to stimulate the act. About 10 o'clock P.M., the muscles of both upper and lower extremities became rigid, and there was also tonic contraction of the muscles of the back of the neck, and slight trismus, but no risus sardonicus. In about one hour these tonic contractions disappeared. During the greater part of the night no voluntary attempt at respiration was made, or else made at long intervals, and the act was almost entirely carried on artificially. At 4 A.M. of March 31, respiration could be excited by merely striking the chest, at which time the motion of raising the arms to produce inspiration was omitted, but expelling the air by compressing the chest was not discontinued. In a short time, however, the patient ceased again to make natural efforts at respiration, and the complete Silvester's method was again brought into use. At 6.30 A.M. the patient was able to carry on respiration unaided. About 7 A.M. he was taken to the ward, when the motion of transferring him from the stretcher to the bed again stopped respiration, which was, however, easily started again by the methods above mentioned. During most of the night the pulse was good, except a couple of intervals of about an hour each, when it became imperceptible at the wrist. In addition to several injections of $\frac{1}{60}$ of a grain of atropia, he received several hypodermic injections of brandy and whiskey. At 2 P.M. he could be roused by sharp questioning, but his answers were incoherent and unintelligible. He had again in the morning shown tetanoid symptoms, but no history of his having taken any strychnia could be obtained. The form of the poison used was morphia, but how much could not be ascertained. Toward evening, there was considerable elevation of temperature. He became fully awake, and could talk intelligently, but his movements were uncertain and jerky.

April 1, 5 P.M.—Resting easily. 10 P.M., very restless; high, weak pulse; temperature 103°.

2d, A.M.—Better; temperature 100°, P.M., temperature 102°; coughing.

3d, A.M.—Dr. Carson announced pneumonia. P.M., temperature 102.5°; pulse 124; respiration 55; crepitant râle in the right infra-scapular region; dulness over the right and left infra-scapular and scapular regions; rusty sputum. 7.10 P.M., died.

It has escaped mention in the above report that the patient was stripped to the waist in the accident ward for about nine hours, or during the time artificial respiration was practised, and besides his body was drenched with cold water by the flagellation with wet towels.

A considerable search through professional journalistic literature has not discovered other cases of pneumonia following opium poisoning. Dr. H. C. Wood, whom nothing is likely to have escaped, states in his work on Materia Medica, Therapeutics, and Toxicology, that opium poisoning usually has no sequelæ, and only gives a case of amaurosis taken from Schmidt's *Jahrbücher*. But it must not be overlooked that after opium ingestion, where death results, it supervenes rapidly, and that time enough is not given for pulmonary congestion to pass over into inflammation, or, if it does, it is likely not noticed, but considered part of the toxic action of the drug. Probably, too, this complication may not have been broached, from the fact that only a relatively small number of all the cases of opium poisoning which happen are published, and of these by far the greater proportion are those ending in recovery. In the reported cases the main point at issue is *treatment*, successful or unsuccessful. Consequently the attention has been directed solely to cause and antagonism to cause, and between these two nothing regarded as extraneous has been permitted to intervene.

What share a portion of the treatment employed had to do with the production of pneumonia in the two cases reported, may be settled to suit individual opinion. It is hardly possible that in both cases exposure and exhaustion were not without injurious influence. How many have been laid to the last long sleep by similar methods of procedure, the records do not show. They do show, however, that violent and excessive exercise, exposure, flagellation, and douching are unnecessary; that cases do as well, or better, where such expedients are not resorted to. And by thus showing that they are useless, they be-

come disclosed as cruel and barbarous, and therefore detrimental.

The above statements are supported by numerous published cases of opium poisoning scattered throughout home and foreign medical journals, which were successfully treated simply by atropia or belladonna, with rest and stimulants, including, of course, free emesis where the drug was taken *per orem*. Such means have proved ample for the recovery of apparently hopeless cases, in which there was no question as to the introduction of a fatal quantity of the poison, and in which the most alarming toxic effects were manifested. Dr. Oliver, of Philadelphia, in the *American Journal of the Medical Sciences*, 1876, has tabulated 256 cases of opium poisoning, of which one-half were subjected to the "belladonna treatment," and the other half to other methods. In the former the average percentage of recoveries was 96, and this is the series in which movement and exposure had the least place; while in the latter, where they always formed part and parcel of the other methods, the average percentage of recoveries only amounted to 74. Furthermore, the experiments of Drs. Corona and J. Hughes-Bennett upon animals leave no doubt of the power of atropia alone to prevent a deadly issue after the administration of a fatal dose of opium. While the main reliance, then, must rest upon the "belladonna treatment," there are some aids which have been, and yet may be, found advantageous. Such are the administration of caffeine and theine by hypodermic injection or *per orem*, the moderate employment of artificial respiration at intervals in special emergencies, and the use of a strong faradic current to cause pain, arouse the patient, and stimulate the flagging respiratory act. This latter has the merit of fulfilling these purposes to the greatest possible extent, and of leaving behind no marks, soreness, or exhaustion.

The treatment of opium poisoning may be thus summarized: Evacuation of the stomach by emesis or the stomach-pump, when the drug has been introduced by the mouth, atropia, caffeine, theine, stimulants, rest in a recumbent posture, sufficient clothing to retain the body heat, the considerate employment of artificial respiration where respiration is suspended, and electricity. All important indications are thereby met. By clearing out the stomach any unabsorbed portion of the poisonous agent is removed. Atropia, caffeine, and theine are respiratory excitants, and they favor the elimination of carbonic acid, with which the blood is surcharged in opium narcosis. Stimulants, rest, and warmth prevent the dissipation of the body strength and heat, and thus preserve to the tissues the greatest resistance-power to the poison. By artificial respiration, when the act is suspended, vital processes may be continued until force enough is gathered to make them self-sustaining. Finally, through electricity, impressions are made upon torpid nervous centres which call forth conscious and reflex respiratory and other efforts of value in overcoming the grave condition. Experience has fully demonstrated that this treatment combines all elements which are worthy to be relied on for rescue. In attempting to do more, is there not a culpable waste of more potent resources?

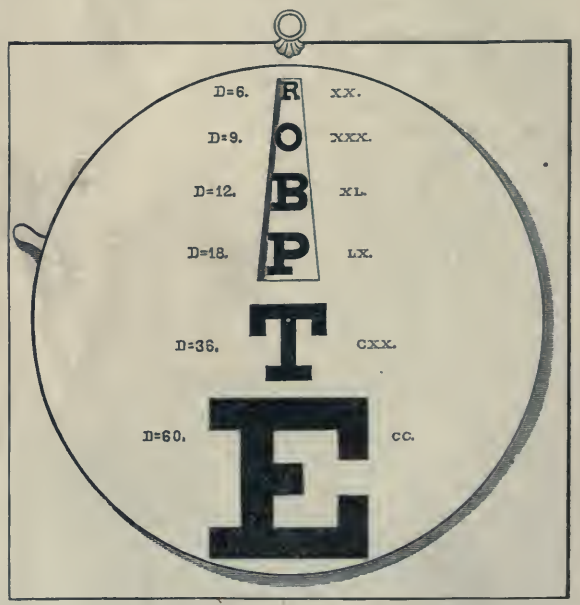
In closing, it seems fitting to give some of the conclusions of Dr. James Johnston, based upon a personal treatment of three hundred cases of opium poisoning, from the *Medical Times and Gazette*, of February 15, 1873. When the nervous centres are profoundly impressed, it is not only useless but mischievous to drag the individual about, as it only increases the exhaustion, which is one of the greatest dangers in cases of opium poisoning. The treatment for such cases is to place the patient in a horizontal position, inject atropia subcutaneously, if necessary assist it with artificial respiration, and, in cases of exhaustion, strengthen the circulation by applying warmth and counter-irritation to the limbs, and by the administration of stimulants, such as coffee, ammonia, brandy, etc. When the system is fairly under the influence of atropia, with respiration tranquil, however slow it may be, it is undesirable to interfere by artificial respiration, as it only embarrasses the breathing, and interferes with the tranquil sleep which usually follows the exhibition of atropia.

A TEST-TYPE DISK.

BY WILLIAM THOMSON, M.D.,
PROFESSOR OF OPHTHALMOLOGY IN THE JEFFERSON MEDICAL COLLEGE.

IN testing for the acuteness of vision of the employés of the Pennsylvania Railroad, it was deemed requisite to guard against any deception or bad faith, or at least to take precautions that the Snellen test-types should not be so accessible as to enable the men to examine them and learn them by heart. I was led, several months ago, to arrange the usual

FIG. 1.



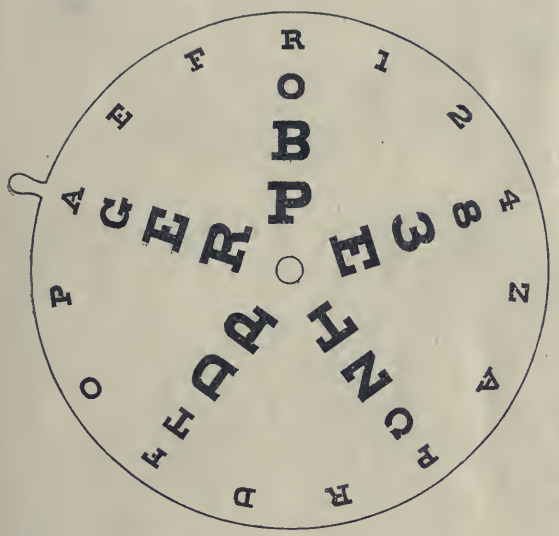
Upper disk.

letters in such a manner as to prevent any but one letter of a series from being visible at one time. This was done by using two disks of card-board,

about 12″ in diameter, superimposed, and fastened at their centres to a square of card-board, 14″ in each direction, which could be suspended upon the wall.

Upon the front disk (Fig. 1), near its lower border, was placed the letter D = 60. Over the centre was placed D = 36, and above this an opening was made by cutting out a V-shaped piece, to permit the letters on the second or lower disk to be seen. On this disk, above its centre, were placed, in concentric lines, all of the letters—D = 18, 12, 9, and 6, and in addition some figures of the same sizes, so arranged that, by the rotation of the second disk (Fig. 2), they could be brought into view at will through the opening in disk one.

FIG. 2.



Under disk.

This arrangement has been perfected, and will be furnished by Queen & Co., and I think it is worthy of description, since it will answer the purpose for which it was designed, and it also forms a compact, convenient, and useful form of the standard test-letters for office use, inasmuch as it prevents patients from learning all the letters of any given size with one eye before the other has been examined. The metric system has been selected, but the equivalent in English feet has been also placed opposite each series of dioptrics.

MEDICAL PROGRESS.

RESECTION OF THE PYLORUS.—LAUENSTEIN (*Centralb. f. Chir.*, No. 9, 1882) attempted the resection of the pylorus on the third of January, of this year, in a woman aged thirty-four years, with symptoms of cancer of the stomach, confirmed by the detection in the epigastric region of a tumor the size of the fist. In the operation an unexpected difficulty was met with; the stomach was closely adherent to the omentum, both at the greater curvature and by its posterior wall, necessitating the application of a very large number of ligatures, and the loss of a great deal of time, the operation lasting five hours. No unfavorable symptoms developed until five days after the operation, when peritonitis set in and rapidly proved fatal. The autopsy showed that the transverse colon was gangrenous at the point where its attachments to the stomach had been destroyed.

In a case reported by LEDDERHOSE (*Deutsche Zeit. f. Chir.*, xvi., 1882), the stomach was bound down to the pancreas, which was only recognized after having been cut; it was then attempted to free it by dissection, so causing considerable loss of blood and time, and requiring the use of the thermo-cautery. The operation lasted five hours, and the patient died during the course of the day from probable heart paralysis.

NYCOLAISEN (*Berlin. klin. Woch.*, 3, 1882) was equally unfortunate in the extirpation of the pylorus attempted on a woman presenting symptoms of cancer of the stomach with a perceptible tumor at the level of the eighth rib on the right side. Collapse occurred as the patient was recovering from the chloroform, and in spite of the administration of stimuli, she died in the course of the night.—*Gazette Méd. de Paris*, May 6, 1882.

PARESIS OF THE VOCAL CORDS.—DR. WHITFIELD WARD gives the following as a summary of his views on this subject:

1. That the arytenoideus muscle is the principal agent in the production of the affection styled paralysis of adduction.
2. That elliptical paralysis is caused by a paresis of the crico-arytenoidei laterales, through the inability of the latter bodies to revolve the arytenoid cartilages inward when approximated.
3. That the thyro-arytenoidei are the only relaxors of the vocal cords, and the type of paralysis produced by these muscular bodies is characterized by a perpetual tension of the vocal bands when adducted.
4. That the crico-thyroids are the only vocal tensors, and a paralysis of these latter muscles is manifested by the cords being permanently relaxed when approximated.—*Arch. of Laryngology*, April, 1882.

USE OF THE CARBOLIC SPRAY AS A PREVENTIVE AND CURATIVE OF SUPPURATIVE KERATO-IRITIS IN THE EXTRACTION OF CATARACT.—DR. GALEZOWSKI formulates the following propositions as expressing his results reached in a careful study of this subject:

1. The carbolic spray should form one of the indispensable conditions for ocular operations, and particularly for the extraction of cataract. The eye should be exposed to the spray during the entire operation, and after the operation is completed the eyelids should be widely opened and the spray directed immediately on the wound.
2. Each renewal of the dressing should be made under the spray.
3. Whenever, in the first three or four days, the least suppuration is detected at the border of the corneal wound, or an iritis with œdema of the eyelids, the spray should be used every half or quarter hour, according to the severity of the case.—*Gaz. Hebdom.*, June 2, 1882.

THE PRESENCE OF PTOMAINES IN THE INFERIOR ANIMALS.—M. SCHLAGDENHAUFFEN (*Journ. de Pharm. d'Alsace-Lorraine*, March, 1882) reviews the history of the important discovery of this class of organic poisons by the Italian chemists Moriggia and Battistini, in 1875, which were also observed at about the same time by Selmi, Casali, and Vella, and who called attention to their great importance in toxicology. More recently Brouardel and Boutmy, as also A. Gautier, have occupied themselves with the study of the formation of these bodies. According to the former, the ptomaines are the result of the putrid transformation of albuminous

bodies. They are most readily formed when the putrefaction takes place with exclusion of the air, and result from the union of certain hydrocarbons with the nitrogen proceeding from the tissues or from the animal liquids, while the oxygen of these materials and their carbon are dissipated in the form of carbonic acid gas. They may also be formed during life.

A. Gautier, whom Selmi was pleased to recognize as the first chemist to affirm the existence of ptomaines in putrefying matters, has expressed the opinion that they result from a division of the albuminoid matters. He has searched for them among the products of secretion of certain animals which are provided with special glands, and has confirmed their presence in the venom of reptiles.

Pursuing the thought of the physiological formation of these bodies, the question arose whether the salivary glands of the superior animals would not produce toxic substances analogous to the venom of serpents, and has indeed found in normal human saliva a very toxic substance, particularly in its action upon birds, in which it produces intense stupefaction. It consists principally of a venomous alkaloid, forming a soluble and uncrystallizable chloro-platinate and chloro-aurate, of the nature of the cadaveric alkaloids.

Based upon the interesting results of Gautier, the author has sought to disclose the presence of ptomaines in the inferior animals, selecting the comestible oyster and the common mussel as the subjects for experiment.

The animal, after having been detached from the shell, was deprived of the larger part of the tissue, in order to retain simply the central organ, the stomach and liver, upon which the experiments were made. The material was rubbed in a mortar with sand, which latter had been previously washed with acid and strongly ignited, and finally the organic material, after complete desiccation in a bath of salt water, introduced into an apparatus for continual displacement, and treated with hot ether. The ethereal liquid, evaporated to the consistence of an extract, contained a notable quantity of fatty matter mixed with chlorophyll, the presence of which was easily disclosed, either by the aid of the spectroscope or by means of concentrated hydrochloric acid. The ethereal extract was then extracted with water, without the addition of an acid.

The aqueous solution, evaporated to a convenient quantity, presented all the characters of the cadaveric alkaloids. It gave a yellowish-white precipitate with potassio-mercuric iodide and potassio-cadmic iodide. Iodine in potassium iodide, and the double iodide of bismuth and potassium, produced brown precipitates. Picric acid, phospho-molybdate of sodium, and tannin produced, likewise, abundant precipitates. Potassium ferricyanide, in contact with ferric chloride, gave rise to the formation of Prussian-blue. Its hypodermic injection produced in the frog a stupefying effect, but without causing death.

These characters agree with those of the ptomaines; and the author concludes from the above reactions that shell-fish contain bodies analogous to the vegetable alkaloids.

As to their origin, the author considers it difficult from the preliminary experiments to attribute their formation to a division of the albuminoid matters of the tissue, for nothing peremptorily demonstrates it; one would be able to refer them perhaps to a transformation of the alimentary bodies.

It would not be without interest to examine whether the production of ptomaines in animals is more abundant under certain physiological conditions than in others, or whether the toxic action of these bodies is more pronounced in summer than in winter. It is in order to elucidate this question that the author proposes to return again to the subject, after having investigated the reason, which is still the subject of controversy, why the consumption of oysters and mussels at certain seasons of the year is attended with danger.—*Amer. Journal of Pharm.*, May, 1882.

BLOODLESS OPERATIONS.—DR. JULIUS WOLFF, of Berlin, in a recent communication on the arrest of hemorrhage during and after surgical operations (Langenbeck's *Archiv*, Band xxvii., Heft 2), points out that most of the anticipated dangers of Esmarch's method do not exist. No instances have yet been recorded of such results from its application as plethora of internal organs, cerebral apoplexy, local inflammation, thrombosis, or gangrene. When persistent paralysis is met with as a result of constriction of a large nerve, it is usually found that the elastic band or ligature is composed of unsuitable material, or that it has been improperly applied. The danger, in cases of suppuration or sloughing, of putrid fluid, or unhealthy and softened tissue being driven into the circulatory system or the healthy structures, may be prevented by dispensing with the use of the elastic ligature, and by elevating the limb for a few minutes before applying the ligature. The most serious disadvantage attending Esmarch's method of constriction is the profuse parenchymatous bleeding, through temporary paralysis of the walls of the small vessels, which follows the removal of the constricting agent. Dr. Wolff describes the different attempts that have been made to prevent or guard against this result. In 1878, he proved that, during such operations on a limb as the removal of a sequestrum or the excision of a tumor, much blood would be saved by elevating this limb during the operation, and by its previous cooling through contact with moderately cooled air or water. He found that, by elevating the closed hand for a short time, he was able to lower its temperature by several degrees; and he stated that recent wounds, which, during elevation of the limb, remained almost quite dry, became at once flooded with blood after the limb had been laid in the horizontal position. After exposure of the upper extremity to air at a temperature of 42° Fahr., or water at 48° Fahr., such contraction of the small vessels results, it is stated, that, even when the arm is allowed to hang down, the thermometer grasped in the hand will not rise higher than 70° Fahr., and the hand and forearm will remain pale and cold. In operations on limbs, including major amputations, Esmarch, after tying all large and visible arteries, applies a firm and constricting dressing, and then removes the ligature. König, after the large vessels have been secured, removes the ligature, elevates the limb, and then looks for the bleeding vessels before finally covering the wound or stump. Dr. Wolff advocates the plan of covering the extremity of the stump by firmly bandaged antiseptic dressings, after removal of the constricting ligature, and before the application of the sutures, and of retaining these dressings, with the limb elevated, for a period of fifteen or twenty minutes, and until the stage of vaso-motor paralysis has ceased. The end of the stump is then again exposed, and, after deligation of any vessels that may still bleed, the wound is drained, closed by sutures, and then dressed. Three cases of amputation in the thigh are recorded in which this method was practised with success. The author recognizes the objection on the score of too much delay in the operation, and of the necessity of keeping the patient under the influence of the anæsthetic for at least a quarter of an hour after the removal of a limb. It is pointed out, however, that very often after the removal of the constricting band in amputation, much time is taken up in looking for and securing a number of small but freely bleeding vessels.—*London Med. Record*, May 15, 1882.

CLASSIFICATION OF THE MOTOR AFFECTIONS OF THE LARYNX.—DR. G. M. LEFFERTS adopts the following classification of motor affections of the larynx:

1. Motor paralyses of the larynx, the result of complete, usually acute, morbid implications of the nerve centres, or of the main nerve trunks, the lesion being either unilateral or bilateral, and the vocal cord or cords assuming the "cadaveric" position.

2. Motor paralyses of the larynx, the result of incomplete, usually slowly progressive, lesion of either the nerve centres, or, more commonly, of the nerve trunks in their course; certain nuclei of the former, or certain fibrils of the latter, alone being implicated, certain muscles alone are paralyzed; the abductor muscles of the glottis, possessing a peculiar proclivity in this respect, and practically being the only ones thus affected, the lesion may be unilateral or bilateral.

3. Motor paralyses of individual muscles of the larynx, the result of implication of certain peripheral nerve twigs, by local or intra-laryngeal lesions.

4. Motor affections of single or groups of laryngeal muscles, the result of simple myopathic change in said muscles of a degenerative character.

5. Motor paralyses, functional in their nature, the adductor muscles being the ones commonly affected, the abductors very rarely.—*Arch. of Laryngology*, April, 1882.

DEAFNESS COMING ON DURING AN ATTACK OF MUMPS.—Two cases, in which deafness suddenly supervened during the course of an attack of mumps, are recorded by DR. A. H. BUCK in the *Zeitschr. f. Ohrenheilk.*, xi. 26. In the first case the patient (a girl) was seized with very acute pain in the ear on the third day of the attack, and next day she was deaf. In the second case, the patient (a man) suffering from the same affection became deaf, but suffered no pain in the ear. In both cases both parotid regions were affected; nevertheless, in the first case the deafness was limited to one side. The author thinks that in both instances the deafness was due to some affection of the labyrinth.

Moos records (*Ibidem*, p. 51) the case of a boy of 13, who, on the fifth day of an attack of bilateral parotitis, became deaf. On the sixth and seventh days vomiting occurred; on rising from bed on the eighth day the patient's gait was staggering, but this symptom gradually subsided. There was no loss of consciousness. Tuning-forks c and c′ placed on the middle of the cranium, were heard in the right ear, but tuning-fork a′ was inaudible; all three forks were inaudible on the left side.

That he had here to do with an affection of the labyrinth, and not with a basilar meningitis, the author thinks most probable, as consciousness was throughout undisturbed. As regards the manner in which the affection is transmitted from the parotid gland to the organ of hearing, the hypothesis that this takes place directly, though by paths which are yet unknown to us, seems most plausible. But bearing in mind the fact that both testicles are not unfrequently inflamed during an attack of mumps, it seems to the author very probable that in many cases of parotitis certain materials enter the circulation, and, in passing through organs having a very complex circulatory apparatus (*e. g.*, the testicles or internal ear), especially when the return of blood is interfered with, are apt to be arrested, and to give rise to more or less disturbance.—*Glasgow Med. Journ.*, May, 1882.

THE SPLEEN IN SYPHILIS.—In order to be able to form a personal opinion about the liability of the spleen to be affected by the syphilitic dyscrasia, DR. BLOCH (*Hosp.-Tidende*, ix. 2 and 3, 1882) has examined the *post-mortem* records of the City Hospital of Copenhagen (Denmark) for fifteen years, viz., from 1866 till 1880, both included. He has collected 154 cases of *post-mortems* of children who had died with hereditary syphilis. In 96 of these the spleen was healthy. He gives the complete list, with details, of the fifty-eight cases in which the spleen was found in pathological conditions. These were hyperplasia, simple (14 cases) or combined with increased density of the tissue (31 cases), or with greater softness of the tissue than in the normal spleen (10 cases). Further, there was one case of infarctus, one of fibrinous exudation on the serous membrane, and one of thickening of the capsule and adhesion to the neighboring organs. Besides this he found in ten cases of hyperplasia fibrinous exudation on the surface of the spleen, four times thickening in different places of the capsule, and once adhesions to the contiguous parts. In eight cases there were found miliary tubercles, but always combined with tuberculosis of other internal organs.

Next Dr. Bloch examines to ascertain if the changes reported are referable to syphilis itself or whether they may as well be due to other diseases which occurred in individuals tainted with syphilis. He excludes three cases in which there were found tuberculous nodules in the spleen as part of a general tuberculosis. The great frequency with which hyperplasia is found warrants him to look upon it as a manifestation of the syphilitic dyscrasia, as described by Virchow and others.

On the other hand, the author does not think that the evidences of perisplenitis (fibrinous exudation and adhesion to neighboring organs) which were found in some cases are attributable to syphilis, since serous membranes nowhere else are found affected by syphilis.

The thickening of the capsule, he thinks with Virchow, is to be ascribed to present or past inflammation in the organ. He cannot determine from the report if the infarctus found in one case was a cicatrix as described by Virchow.

In no case of the 154 was there mentioned gummatous tumors, nor amyloid degeneration, and among 44 adults who had died in the course of syphilis during the same period, he found only three cases with amyloid degeneration, and none with gummatous tumors. These are indeed exceedingly rare in the spleen.

Dr. Bloch, in accord with Trapp, but in opposition to most other writers, thinks that the amyloid degeneration has nothing to do with syphilis, but when found in persons suffering from that disease is only due to long-continued suppuration.

Of the 44 adults suffering from syphilis, the spleen was found perfectly healthy in 14 cases; hyperplasia in 27 cases—11 times the soft variety, 16 times the hard. Together with the hyperplasia there was twice found thickening of the capsule in different places, and four times adhesions to the neighboring organs.

The hyperplasia then has been found in 61.4 per cent. of the cases of adults with acquired syphilis, while it was only found in 36.4 per cent. of the cases with hereditary syphilis. This seems to prove that it does not appear very early in the development of the disease.—*Arch. of Dermatology*, April, 1882.

IODOFORM IN DIABETES.—The last drug introduced into the treatment of diabetes mellitus is iodoform, which PROF. MOLESCHOTT, in a recent communication to the Academy of Medicine at Rome, states he has found to be very beneficial in five cases of that disease. The quantity of sugar excreted rapidly diminished in all the cases so treated. Small doses are sometimes productive of good results, but as much as forty and fifty centigrammes may be administered daily with impunity. The Professor employs cumarin—the odoriferous principle of the Tonquin bean—to overcome the un-

pleasant smell of iodoform. He prescribes—iodoform, 1.0; extract of lettuce, 1.0; cumarin, 0.1; to be made into twenty pills with powdered gum arabic, and to proceed from one pill twice to two pills four times in the twenty-four hours.—*Lancet*, June 3, 1882.

TREATMENT OF NASAL POLYPI.—In an elaborate article on nasal polypi in the *Deutsche Med. Wochen.* for June 3, 1882, DR. MAX SCHAEFFER condemns the use of polypi forceps as a means of removal of these tumors, as they cannot be completely eradicated, and what remains will cause their reproduction. He recommends the use of the galvano-cautery snare.

THE VALUE OF THE NUMBER OF VACCINAL CICATRICES IN THE PROGNOSIS OF SMALL-POX.—In deciding this question M. LANDRIEUX stated, in a note read before the Société Médicale des Hôpitaux, on May 26, that not only the number but the character of the scars must be taken into consideration, and the scars may be divided into genuine and spurious cicatrices. In 71 cases of variola with more than three genuine scars, three died, or 4 per cent., while in 98 cases with three or less genuine scars, twelve died, or 12.24 per cent.; of 143 cases with more than three superficial scars, 29 died, or 20 per cent.; of 133 cases with three or less superficial scars, 31 died, or 23 per cent. It is therefore seen that the number and character of the scars in a case of variola will serve as an accurate guide for forming a prognosis.—*Gaz. Hebdom.*, June 2, 1882.

EHRLICH'S METHOD OF DETECTING TUBERCULAR BACILLI IN THE SPUTA.—Among the many interesting specimens of micro-organisms shown to a large assemblage at the rooms of the Royal Medical and Chirurgical Society on Tuesday evening last, the 23d inst., there were two of especial interest, showing the bacilli of tubercle. They had been prepared by Dr. Ehrlich, assistant in the Medical Clinique, Berlin, according to a new method which promises by the excellence of its results to supersede that of Koch. One was a specimen of bovine tuberculosis, the giant-cells of which were the centre of interest; and the other was a preparation of phthisical sputum. It is chiefly on sputum that Dr. Ehrlich has made his observations, but his method is available also for sections. We take the following interesting practical details from the reports (*Deutsche Medicinische Wochenschrift*, May 6) of a communication made by him on May 1 to the Medical Association of Berlin (*Verein für innere Medicin*). He extracts, with a pair of needles, a small particle of the sputum, and presses it between two cover-glasses. He then separates the cover-glasses, and gets a thin layer of sputum on each. The cover-glasses are allowed to dry in the air, and, in order to fix the albumen, they are either kept for an hour at a temperature of 100° C. to 110° C., or they are passed two or three times through the flame of a Bunsen's burner. The coloring fluid is then prepared. Water is shaken up with an excess of anilin oil, and filtered through moistened filter-paper. To the clear fluid so obtained an alcoholic solution of methyl-violet or of fuchsin is added, drop by drop, until the fluid becomes opalescent. The cover-glasses, coated with the dried sputum, are then set swimming in this opalescent fluid, and in fifteen or thirty minutes they will have colored an intense blue or red, according as the violet or fuchsin had been used. Dr. Ehrlich now departs further from Koch's procedure; he does not color the substance in general with vesuvin, but he decolorizes it with strong acids, the bacilli retaining the blue color. One volume of officinal nitric acid is mixed with two parts of water, and the blue-stained preparations are put into this strong acid. In the course of a few seconds the color fades, a yellowish cloud passes across the preparation, and leaves it white. Everything in the preparation of sputum is now decolorized, except the bacilli, which are intensely blue. But the technical difficulties of seeing them are still considerable, and it is further desirable to color the ground substance yellow in the case of a methyl-violet preparation, and blue in the case of a fuchsin preparation. In the specimen of phthisical sputum prepared by Dr. Ehrlich as above, and exhibited on Tuesday last, the bacilli were very numerous, very uniform in size and form, and very distinct, the magnifying power being about 900 diameters and the illumination strong. Dr. Ehrlich has examined the sputa from twenty-six pronounced cases of phthisis, and he has found bacilli in them all, and most abundantly in acute cases. In most cases the bacilli are found in the very first specimen made, and in the very first field of the microscope. The entire process of drying and coloring may be done in less than an hour. The bacilli were not found in sputa other than phthisical. A friend sent him a specimen purporting to be phthisical sputum, in which Dr. Ehrlich could find no bacilli; and, on inquiry, it proved to have come from a case of empyema with perforation of the lung.—*Med. Times and Gaz.*, May 27, 1882.

PROPHYLAXIS OF OPHTHALMIA NEONATORUM.—CREDÉ (*Arch. f. Gynäkol.*, Bd. 18, H. 2.) has now treated four hundred cases in addition to two hundred previously reported, and with equal success. In consequence of the objection that the continued application of salicylic acid compresses was very probably the important part of the treatment of the earlier cases, the compresses were omitted in more than three hundred of the later ones, and the treatment thus rendered exceedingly simple. On division of the cord the infants were bathed, the lids washed off with a bit of clean rag and water only, then from a glass tube a single drop of a two per cent. solution of silver nitrate was dropped into each slightly opened eye. Nothing more was done. No one of the infants so treated became affected during the first seven days, even in slight degree, nor was there the least harm from the instillation. Children born at term showed practically no reaction, scarce reddening, never swelling. Only in a portion of the prematurely born, whose conjunctiva appears to be more easily irritated, there was after a short time an increased serous, followed by a little mucous, secretion, which, however, always disappeared in twenty-four to forty-eight hours. Credé insists that only direct treatment of the eyes themselves is a certain preventive of infection. Disinfectant cleansing of the maternal genitals before and during labor, though this also was carried out as much as possible, has been shown by experience to be insufficient of itself to prevent infection, and none of the other usual disinfectants has given the same certainty as the silver nitrate.

The mothers of the six hundred infants presented the most varying conditions; there were syphilitic, gonorrhœal, and catarrhal affections; some were clean, others very dirty, and the latter could not always be properly cleansed because entering the hospital during labor; there were easy labors, and very severe operative cases.

The above treatment, of course, prevents only such disease as is acquired during labor; this, it is generally admitted, appears at least on the fifth day. Any affection beginning later must be referred to another source. The latter cases occur but rarely, and their course is generally short and favorable, although serious cases are sometimes observed. For these a drop of the above solution should be applied at the beginning, repeated once daily, if necessary, and a small ice-bag be kept continuously on the lids.—*Boston Med. and Surg. Journ.*, June 1, 1882.

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SATURDAY, JULY 8, 1882.

GUITEAU—POST-MORTEM.

NOTWITHSTANDING the advances made in the means of observation, and in the interpretation, of changes discovered in the nervous centres in cases of mental disease, it still remains true that there is no necessary dependence of even extreme mental perversion on recognizable lesions. It is not safe to predict that, a mental disease being given, a certain series of morbid alterations must be found. On the other hand, the existence of very extensive disease of the cerebral structures is not incompatible with a perfectly normal state of the mental functions. It is becoming more and more evident, however, with the progress of knowledge, that the number of merely psychical derangements is lessening rapidly; indeed, there are now few psychiatrists, if any, who maintain that ancient theory of insanity which refers all cases to the domain of spiritual derangement, in which there are no discoverable lesions. The alterations in the psychic sphere are now generally referred to some change in the organic substratum.

Increasing experience, clinical observation, and experiment tend to show that minute alterations in the cortex suffice to produce extreme mental derangement, when extensive coarse lesions in the other parts of the brain have little influence on the operations of the mind. It is probable, indeed, that mere molecular changes in the gray matter of the mental sphere may much affect its functions. So much uncertainty attends the demonstration of these minute changes that there is a growing distrust regarding the genuineness of many observations. Post-mortem changes take place with such rapidity, the preparation of sections for the microscope so modifies the structure, and so high is the skill necessary to produce good results, that structural alterations, not demonstrable by coarser means, are looked upon with some uncertainty, if not with suspicion and distrust. Hyperplasia of the delicate neuroglia, granular clouding of the cells, amyloid bodies, etc., if alone discovered, and not accompanied by other distinctive evidences of pathological change, will hardly be considered to prove, in any doubtful case, the existence of insanity.

Applying these principles to the demonstration of Guiteau's morbid cerebral anatomy, it must appear, from the report of the autopsy, that those psychiatrists who expected to demonstrate the assassin's criminal irresponsibility, by the changes in his brain, will have a rather difficult task. If they expected to find deviations from the normal type of brain structure, the evidences of chronic meningitis, dilatation of the ventricles, atheromatous degeneration of the vessels, dilatation, fatty degeneration, amyloid change, etc., of the perivascular lymph spaces, wasting, or the *état criblée* of the gray matter, and the other numerous changes in the intra-cranial organs of the chronic insane, they are, certainly, disappointed. Some deviations from a typically normal brain are referred to in the report, but they have absolutely no signification from the point of view of mental derangement. Adhesions of the dura mater, and the thickening of the membrane, without any evidence of coexistent inflammation, cannot be said, indeed, to have any pathological significance.

It may be affirmed of Guiteau's brain, that it presented as little evidence of pathological change as the brain of any one of his age dying of some other than cerebral disease. What may be disclosed on microscopic investigation, which is yet to be made, remains to be seen. Here the opportunities are great for unconscious deception, and for differences of opinion. As the naked-eye appearances are so little suggestive of disease, the minuter changes must be well fortified by the skill and experience of the microscopists undertaking the investigation, to be accepted without reserve. There must be no preconceived opinions, no previous predictions, and no prejudices of any kind, on the part of the microscopic experts to give a bias to their conclusions. They should, indeed, enter on this investigation in the spirit in which the autopsy was conducted.

The examination, the record of which we print to-day, was made with the view to ascertain the pathological conditions and the anatomical peculiarities; the interpretation of these appearances as bearing on the question of insanity, formed no part of the duty of those making the autopsy. Let the

microscopical examination be conducted to the same end—to the demonstration of the actual condition, quite irrespective of the effect the conclusions may have on the opinions and judgments of those experts who have committed themselves in advance. We may advert to this subject when the report of the microscopical appearances is published.

CHINOLINE IN THE TREATMENT OF DIPHTHERIA.

As chinoline, recently brought forward as a substitute for quinia, has proved rather disappointing, it may interest our readers to learn that it has been employed in diphtheria with a considerable measure of success. In a series of papers now publishing in the *Berliner klinische Wochenschrift*, Dr. Seifert, of Würzburg, gives a number of cases in proof of its utility. A five per cent. solution is painted over the affected surface, and a two per cent. solution is used as a gargle. The results which follow are softening and detachment of the exudation, lessening of the glandular swellings, diminution of the fetor, and an improvement in the general state manifested by the decline in temperature and pulse. He also allows ice freely, but no other remedy appears to be used. If good results are obtained from treatment so little perturbating, it is really an important contribution to our resources.

This practice is not altogether novel. Quinia in solution sprayed freely over the throat, has been used in diphtheria with success, just as Seifert is using chinoline. It is not possible to estimate the quantity of chinoline swallowed, and hence the part in the result due to the systemic action is not separable from that due to the local. As Seifert only uses the remedy in applications to the locality affected, he probably considers the disease local at the outset, and hence most effectively treated by topical measures.

MALARIOUS WATERS.

THE Wheeling, West Virginia, daily papers of June 23, contain reports of a special meeting of the doctors of that city to confer with Dr. Charles Smart, U. S. A., and arrange for coöperation in an investigation into the propagation of malaria by water-supplies, undertaken under the authority of the National Board of Health. It appears that four cities have been selected for the purposes of this investigation—Yonkers, N. Y.; New Haven, Conn.; Paterson, N. J., and Wheeling, W. Va. The first has some local sources of malaria along the valley of the creek which furnishes its water power. The second, also, has some marshy spots which may complicate the inquiry; but Paterson, which suffers a good deal from malaria, appears free from local sources of exhalation. Wheeling, on the other hand, is reported by its professional men as being a non-malarious city. The experiment includes the weekly analysis of the water-supplies of these cities by Dr. Smart, while the medical men make note of their malarial cases, and report them weekly to the Board, that at the end of the year it may be observed whether there is any coincidence between the times of prevalence and certain results of the chemical investigations. Incidentally, during the summer, the ice supply will be examined; and where the physician in attendance on any malarial case unconnected with the city supply doubts the quality of the water used, and desires its analysis, arrangements will be made to have it examined. This is a good work, and we are pleased to learn that the busy practitioners of the cities in question have entered heartily into the matter, and will, without exception, report their cases in connection with the analytical work.

CURARE IN EPILEPSY.

THE important results obtained from the subcutaneous injection of curare or woorara, in epilepsy, may be a justification for a few lines on this topic.

In the first place, it should be noted that the specimens of this drug vary much in activity. Hence in beginning the use of a new supply, its strength should be ascertained by careful administration of minimum doses. Solutions are made by the aid of a little acetic, muriatic, or sulphuric acid, which may then be neutralized by sufficient ammonia added very cautiously. The solution should then be filtered. When kept for a time—for a few days, indeed—five minims of liquefied carbolic acid should be added to each ounce of solution, to prevent change.

In epilepsy this remedy was first used on a large scale by Voisin and Lionville, and by them was pushed to the utmost limits of safety. The most remarkable curative results have been obtained by Kunze. He injects a dose of about two and a half grains every five days, and this amount he says produces no distinctive physiological effects. Kunze reports three out of thirteen old epileptics cured by this treatment. If there is no improvement after four or five injections it is useless to continue it.

The reader, we hope, will not confound curare with *curarine*, the alkaloid discovered by Preyer. It is the crude drug to which reference is made above. Before administering the dose recommended by Kunze, the strength of the specimen should be ascertained.

CRUELTY TO HORSES.

FEW of us wish to be cruel to our faithful, dumb animals, yet how many are! Let any one try to pull a heavy burden, with his head in the air, and see how hard it is. We flex the neck involuntarily,

because we well know that that posture gives at once both the greatest pull and the greatest ease. As with man, so it is with the beast.

Yet our poor horses are reined up so tightly by the short bearing- or check-rein that their flexor muscles have no play at all. It is sheer torture to keep them so, hour after hour, merely to give a stylish appearance. To drive without any check-rein is impracticable. We have observed that a number of doctors have tried it, but, after a trial, they have abandoned it. The horse gets his head in the wet and the dirt, and soon presents a sorry appearance. But we plead for a very *loose* check-rein. Our horses are so faithful to us that gratitude as well as self-interest should be on the side of kindness. Again, now that the hot weather is upon us, we plead for at least one midday drink of water. The Fountain Societies have provided suitable drinking-troughs in many cities, and where they have not, there are usually facilities provided in front of many taverns. Any one who drives much appreciates very heartily the benevolence of such a provision for the wants of brutes.

While writing of horses, we venture to say a word as to that much vexed question, the horse-shoe. Any one who will take the trouble to examine, even casually, the anatomy of the horse's foot, will see that the frog is a wedge of elastic tissue fitted for concussion. Each time it pounds the earth, it spreads the hoof laterally by reason of its shape, for it is not only a wedge antero-posteriorly, but also vertically. It is fitted for concussions as perfectly as is the sole of the dog or the cat.

We know it is a moot point among even good horsemen as to whether in shoeing frog-pressure should be courted or avoided. Experience, we believe, will be in favor of frog-pressure, and both anatomy and common sense are on its side. The frog is precisely fitted, as we have said, for such pressure, and even our stony street pavements do but harden and develop the frog, just as the bare-footed boy has his foot-sole toughened. Xenophon tells us, in his school for horsemen, that colts brought up on dry, stony soils never need protection.

The ordinary shoe, with heel and toe cork, lifts the foot-sole from the ground, and prevents such frog-pressure. But, as a rule, such horses have more or less contracted heels, and have not a long, free stride. Their gait is "groggy." Take off such shoes, and put on the Goodenough or a similar shoe, and it is remarkable to see how their gait improves, and how the heel expands. In the winter time, owing to the ice, it is necessary to shoe them with corks say two or three times; all the rest of the year the Goodenough, applied cold, is by far the best shoe. We speak after considerable experience.

MEDICAL EDUCATION IN OHIO.

DR. JAMES E. REEVES, President of the West Virginia State Medical Society, in his address at the late annual meeting, which we gave on page 609 of our issue for June 3, has taken up a number of timely topics, and among others he alludes to the question of "cheap diplomas" in Ohio. With a Darwinian exactness, he gives facts to support his assertions. Precisely one month after application, a candidate just rejected by the District Board of Examiners at Wheeling, is said to have received his diploma from the Columbus Medical College, along with a class whose attainments in anatomy would be amusing were such ignorance not possible sources of tragical dangers to the community.

If the facts are *not* as stated, the Columbus Medical College, in justice to itself, should instantly and conclusively disprove such responsible and publicly made assertions. If they *are* so? Alas! we have no tribunal save that of public opinion at which such a college can be tried. But public opinion should make its sting felt.

We often hear vague assertions that some college has done suspicious things, but action can not be taken on mere suspicion. Here, however, is a specific case—names, dates, and all, with a responsible man back of it. Let us have the fullest investigation by the Association of Medical Colleges, of which, at the last report, this College was still a member, though a delinquent one.

We are glad to join with Dr. Reeves in commending the first-class colleges of Ohio, and are pleased to see that an Ohio journal (the *Cincinnati Lancet and Clinic*) has the courage to reprint the address. If such outrages exist, the colleges and medical journals of Ohio owe it to themselves, as well as to an imperilled community, not only to enter an emphatic protest against them, but to put a stop to them.

THE FEES OF THE MEDICAL ADVISERS OF PRESIDENT GARFIELD.

WHATEVER may be thought of the abstract injustice of the proposition made by Senator Vest, of Mo., to reduce the sum total of the expenses incident to President Garfield's illness, there can be no difference of opinion as to the execrable taste of his accompanying remarks, which were characterized by a shameful absence of both decency and veracity. That the faithful, laborious, and self-sacrificing services of such men as Dr. Agnew and Dr. Hamilton, rendered at the urgent request of a sorrowing wife, and in response to the almost imperative demand of members of the Cabinet, should be made the theme for the scurrilous attacks of an ignorant politician, must be a source of regret to all intelligent persons, and we are surprised that Senators, most of whom,

as lawyers, are familiar with the value of the best professional advice, should allow themselves to be influenced by Mr. Vest's cheap rhetoric.

In the light of the elaborate review of the treatment of the late President, which we recently published, it is unnecessary to enter into any refutation of Mr. Vest's invectives, but we must call attention to the crying injustice of speaking of the compensation assigned to the surgeons in attendance as excessive. Their services were in every respect of an extraordinary character, involving an unusual expenditure of time and labor, the assumption of a tremendous responsibility, and involved the neglect of their personal affairs to an extent which was in itself a source of great inconvenience, and of serious loss of professional income. The customary fees of men of their standing and reputation, for single visits to distant cities often equal what the Senate now proposes to award them for weeks of almost exclusive and unremitting attention.

It should be remembered, too, that the duty of the Government in this case is self-imposed, that no claim has been made by these gentlemen for remuneration for the services which they freely rendered in response to the imperative summons from the White House, and that, therefore, no shadow of an excuse has been offered for Mr. Vest's scandalous abuse of them on the floor of the Senate, which has thus far been their only official recompense.

THE NEW SURGEON-GENERAL OF THE ARMY.

UNDER the provisions of the Army bill recently passed, providing for the retirement of officers upon their reaching the age of 64, Surgeon-General Barnes has been retired, and, on the 3d inst., the President nominated Col. Charles H. Crane to fill the vacancy thus created.

Dr. Crane is the son of an army officer, and was born in July, 1825. His appointment as Assistant-Surgeon in the army dates from February, 1848. He first went with troops to Mexico, and at the close of that war was sent to Florida, where he served in the Seminole war. In 1852 he was transferred to the Pacific coast, where he was stationed until 1856, when he was placed on duty in New York, where he remained until the end of 1861. He then became Medical Director in the Department of the South, and so continued until the fall of 1863, when he was placed on duty in the Surgeon-General's office at Washington. At the close of the war, in the organization of the Medical Department, he was made Assistant Surgeon-General, which office he has held to the present time, discharging its duties to the satisfaction of all concerned. The Medical Department of the army is to be congratulated upon the selection for its chief of a gentleman who has been so thoroughly identified with it and who so fully understands its organization and wants.

SURGEON-GENERAL BARNES carries with him into retirement the consciousness of a long and useful official life, and the sincere regard, not only of the Army Medical Corps, but the profession throughout the country.

WE learn with great regret that the appropriation for the National Board of Health, as reported to the House in the Sundry Civil Bill, is insufficient to meet its requirements. Not long since we noticed, with satisfaction, its annual report, and its weekly bulletins have been of the greatest value in spreading a knowledge of sanitary matters of national importance; in co-ordinating our otherwise incoherent sanitary legislation; in publishing researches of great value; and in collecting statistics otherwise unattainable, either at home or abroad. We trust that no such false economy will be carried out, and we earnestly urge our readers to write at once to their representatives and protest against it. The session is nearing its close, and immediate and vigorous action is needed to make our legislators acquainted with the sanitary needs of the country.

As a set-off to the extraordinary cases of pregnancy early in life, we notice that Dr. Kennedy lately presented to the Obstetrical Society of Edinburgh a paper on a case of pregnancy at 62 years of age; Dr. Wilson related one of a married primipara at 49, and Dr. Spence that of a frail maiden who, though not a wife, became a mother for the first time at 50 years of age.

PAWLIK has proposed an ingenious method of exploring the ureters in the female, which, in certain cases, may prove very useful.

Placing the patient in the knee-elbow posture, the vesical triangle is more or less clearly defined on the anterior wall of the vagina, its apex being marked by a slight elevation, and its sides and base respectively by furrows and ridges. The furrows indicate the direction in which the instrument is to be passed, and, by a little searching, the orifice of the ureter may be found and catheterized even beyond the brim of the pelvis. Not only the distance to which the instrument can be introduced is an assurance that we are in the ureter and not the bladder, but we have two others. If in the bladder, the cavity of that viscus allows of free movement, which is not possible if the instrument be caught in the orifice of the ureter, and if the bladder be injected with milk or other colored fluid, the escape of milk or of clear urine by the catheter will give information as to the position of the catheter.

SPECIAL ARTICLE.

OFFICIAL.

REPORT OF THE POST-MORTEM EXAMINATION OF THE BODY OF CHARLES J. GUITEAU,

WHO DIED BY HANGING JUNE 30, 1882, AT THE UNITED STATES JAIL, WASHINGTON, D. C., IN EXECUTION OF JUDICIAL SENTENCE.

THE following physicians were present:

Dr. Noble Young, Physician to the Jail; Dr. A. McWilliam, his assistant; Dr. C. H. Nichols, Supt. Insane Asylum at Bloomingdale, N. Y.; Dr. A. E. McDonald, Supt. Insane Asylum, New York City; Dr. W. W. Godding, Supt. Government Insane Asylum, District of Columbia, and Drs. Witmer and Patterson, his assistants; Dr. Geo. L. Porter, Bridgeport, Ct.; Dr. Johnston Eliot, Washington, D. C.; Dr. D. R. Hagner, Washington, D. C.; Dr. Robert Reyburn, Washington, D. C.; Dr. W. J. Morton, Editor of *Journal of Nervous and Mental Diseases*, New York City; Dr. C. L. Dana, New York City; Dr. C. K. Mills, Philadelphia, Pa.; Dr. D. C. Patterson, Coroner, Washington, D. C.; Dr. J. F. Hartigan, Physician to Coroner; Dr. C. H. A. Kleinschmidt, Washington, D. C.; Dr. P. J. Murphy, Washington, D. C.; Dr. Z. T. Sowers, Washington, D. C.; Dr. F. B. Loring, Eye and Ear Dispensary, Washington, D. C.; Dr. D. S. Lamb, Acting Ass't Surg., U. S. A., and Dr. J. C. McConnell, Microscopist, and Mr. Ernst Schafhirt, Anatomist, Army Medical Museum.

The custodian of the body, Rev. Dr. W. W. Hicks, having requested me to make the examination, and this request being in accordance with one previously made by Dr. Young, I had prepared the following course of procedure, with the object of securing the most exact and satisfactory results: The external appearances of the body should first be noted; the cavities, except the spinal, should be opened and their contents examined; that after the removal of the brain, and its examination without incision, it should be transferred, properly guarded and protected, to the Army Medical Museum, where, through the courtesy of the Curator, Surgeon D. L. Huntington, U. S. Army, it would be photographed and then a cast be taken; that its internal structure should then be observed, and portions set apart for microscopical examination; and that the entire operation should be completed as far as possible the same day, to enable the physicians resident elsewhere, present by invitation, to return promptly to their homes; and that the notes should be taken in duplicate.

Shortly previous to the examination, it was agreed between Rev. Dr. Hicks and the United States District Attorney, Geo. B. Corkhill, that the charge of the removal, preservation, and disposition of the brain should be vested jointly in Drs. Lamb, Sowers, and Hartigan, and that the microscopical examination should be made by parties to be selected by the gentlemen making the agreement.

The examination was then conducted by me, assisted by Drs. Hartigan and Sowers and Mr. Schafhirt, and as near as possible in the order proposed. Drs. Kleinschmidt, Patterson, and others, took notes, and Mr. Charles Trought, of the Museum, the photographs.

By reason of delays, for which neither I nor my assistants were responsible, the examination was not begun until 2.30 P. M. (one hour and a half after death), in consequence of which the photographing was less successful, and a cast was impracticable.

The body, which was of a faint yellowish tint, was that of a man about five feet seven inches in height, and weighed one hundred and forty-five pounds.

The eyes were examined by Dr. Loring, who reported that the pupils were slightly and equally dilated; the vitreous was cloudy, and the fundus indistinguishable. The conjunctiva of the left eye was congested. He repeated the examination two hours later, and noticed an appearance as of transverse fracture of the lenses.

A small white scar, directed obliquely downwards, forwards and to the left, and confined to the scalp, was observed midway between the top of the left ear and median line of the head.

There was a yellowish furrow, a few lines in width, extending around the neck in a direction downwards and forwards, in line of rope. On dissection, the sterno-cleido-mastoid muscles were found to be torn in two, about half way between their points of origin and insertion. The thyro-hyoid ligament was also ruptured, and the hyoid bone and thyroid cartilage widely separated. The large bloodvessels were not injured; neither was there fracture nor dislocation of the vertebræ.

The sexual organs were well developed; the mouth of the urethra was moist.[1] There was also phimosis, on reducing which, a considerable accumulation of smegma was observed.

Skull.—The right parietal bone was slightly flattened over a space about two inches square, just back of the fronto-parietal suture and to the right of the interparietal; there was a slight flattened elevation on the corresponding internal surface of the calvaria. The frontal suture was obliterated, the others quite distinct. A number of Pacchionian depressions were observed near the groove for the longitudinal sinus. In thickness the skull presented nothing remarkable.

Membranes of the Brain.—The dura mater was firmly adherent to the anterior portion of the calvaria in the vicinity of the longitudinal sinus.

There were adhesions of the dura also to the base of the skull; they were quite firm and situated in the several fossæ, and most marked in the deeper parts of the fossæ, where also there were small patches, abruptly limited, of immovable arborescent congestion, with, however, no attendant thickening or pigmentation; this *stagnation* was again most marked in the left anterior and middle fossæ. There was no congestion of the dura except at the points just noted.

The dura and pia mater were adherent to each

[1] During the suspension of the body, erection of the penis took place, and the clothing was afterwards found to be moist.

other and to the brain on both sides along a limited portion of the longitudinal fissure in the vicinity of Pacchionian granulations.

The dura was slightly thickened along the longitudinal sinus. It was also slightly thickened and opaque along a portion of the line of the middle meningeal artery on each side.

The arachnoid of the upper convexity of the brain presented in many places, where it covered the sulci, small patches of thickening and opacity; elsewhere it was normal.

The pia mater was anæmic anteriorly; posteriorly there was slight hypostasis.

The cerebral vessels appeared to be normal in all respects.

The orbital plates were well arched, and presented many conical eminences of large size. There was no roughening anywhere of the inner surface of the skull.

The brain was firm. Its weight, including the cerebrum, cerebellum, pons and medulla, and a portion of the dura, was 49½ ounces. It was slightly flattened in the region corresponding to the flattening of the parietal bone above mentioned. On section of the cerebrum there was an appearance as of slight thinning of the gray cortex; the measurements taken, however, gave depths of $\frac{1}{16}$ to $\frac{1}{8}$ inch in close proximity to each other. The white substance was almost absolutely anæmic. The cerebellum and island of Reil were both *covered* on each side.

on the left side, except that the fissure was crossed by a small bridge near its centre. The second and third frontal fissures presented nothing remarkable. There were numerous secondary fissures.

The præcentral and retrocentral fissures, on each side, were well defined, and were unconnected with other fissures. The inter-parietal fissure, on each side, terminated in the transverse occipital, separated only by a slight bridge. The parieto-occipital was well marked on each side. The transverse occipital fissure on the right side was ill defined; it began on the median surface and extended well outwards. The first temporal fissure was well developed on the right side; on the left, was not of the usual length. Wernicke's fissure was well marked on the left side, but not confluent.

The calloso-marginal fissure was double on each side; the upper of the two being probably the true one. On the right, the upper one extended back to the anterior margin of the paracentral lobule; on the left, not quite so far. The lower one extended on the right side to a line about half an inch in front of the parieto-occipital fissure, from which it was separated by a small bridge; on the left side, also, by a bridge of larger size.

Orbital Surface.—On the right side were seven fissures radiating from a circular fissure surrounding a small isolated convolution; on the left side were five fissures radiating from a small shallow depression. The left collateral fissure was well defined, extending to the anterior extremity of the tem-

Upper and anterior view of the brain, in which also a portion of the dura mater appears.

The Fissures.—The fissures generally presented a considerable depth; in many places, as in the right fissure of Rolando, amounting to ⅞ inch.

The right fissure of Sylvius was typical; the left was separated from the first temporal fissure by a slight bridge deeply situated. The right fissure of Rolando did not connect with the fissure of Sylvius; the left was separated only by a small bridge deeply situated. Both were separated from the longitudinal fissure.

The first frontal fissure on the right side was not connected with that of Rolando, but at the posterior part was crossed by a secondary fissure. The same

poral lobe; the right was also well marked, but did not extend so far back as the other, and there was an attempt at confluence anteriorly with the temporo-occipital, a small bridge intervening. The left temporo-occipital fissure was well defined.

The Convolutions.—The following alone call for remark: The ascending frontal was well defined on each side.

The ascending parietal on the right side was well developed in its lower three-fourths, but narrowed in the upper fourth. On the left side the narrowing was less marked. The island of Reil presented on the right side five fissures and six straight gyri; on

the left side, seven fissures and eight straight gyri. The paracentral lobule was well marked on the right side; small on the left.

The accompanying drawing of the brain is from a photograph taken four hours after death.

Thorax and Abdomen.—The usual median incision was made, and the abdomen opened. There was an extravasation of blood into the right pectoralis major muscle near the second rib. The adipose layer of the abdominal section was one inch in thickness. The dome of the diaphragm extended up to the fourth rib on each side.

There were old pleuritic adhesions at the apex of the right lung; the upper and middle lobes were congenitally united by connective tissue. The lung was normal throughout. There were also old pleuritic adhesions of the left lung to the diaphragm and between its lobes; three small tubercle-like, pigmented patches were observed in the upper lobe. The heart weighed ten and three-quarter ounces; its muscular substance was apparently normal. There was an abundance of fat upon its anterior surface and a villous patch of old pericarditis near the apex of the left ventricle. The right ventricle contained a little blood just forming a clot.[1] The valves were normal. The aorta was slightly atheromatous for a short distance above the valves.

All of the abdominal viscera presented large accumulations of fat. They were normally situated. The liver was congested; the gall-bladder contained a little bile; the spleen was lobulated and enlarged; it weighed eighteen ounces; the capsule was bluish, the substance brown; the Malpighian bodies hypertrophied;[2] the pancreas was normal; the stomach contained food;[3] the intestines appeared normal, were not opened; the kidneys were congested; there was a small superficial serous cyst on the right one. The bladder contained a considerable quantity of urine.

The results of the microscopic examinations will be reported hereafter.

D. S. LAMB.

Army Medical Museum, Washington, D. C.,
July 4th, 1882.

SOCIETY PROCEEDINGS.

OHIO STATE MEDICAL SOCIETY.

Thirty-seventh Annual Session, held at Columbus, June 13, 14, and 15, 1882.

(Specially reported for The Medical News.)

Tuesday, June 13.—The Society was called to order by the President, Dr. Starling Loving, of Columbus.

Dr. H. G. Landis, of Columbus, read a paper on

THE PROGRESS OF OBSTETRICS AND GYNECOLOGY.

He first discussed the use of anæsthetics in labor, and condemned the practice upon the following grounds: 1. Labor is not normally attended with much pain. 2. The duration of labor is normally brief. 3. If labor is either painful or long, it is due to pathological conditions which the physician should discover and remove, instead of smothering the evidences of their existence by anæsthetics. Credé's method of extracting the placenta was warmly advocated as the best method of averting *post-partum* hemorrhage and all other puerperal complications. Antiseptic midwifery was briefly discussed, with quotation of the views of Barnes. Lacerations of the perineum and cervix during labor were treated of, the author recommending a conservative course, having doubts as to the necessity for frequent operations, especially in the latter class of cases. He thought lacerations would be less frequent if care were taken to extract the head during the absence of pains, while womb and woman were passive.

Dr. D. N. Kinsman, of Columbus, read a lengthy paper on the

ETIOLOGY OF CONSUMPTION.

According to Jaccoud, consumption is hereditary, inborn, or acquired. Heredity and acquisition only were treated of in this paper, in which the writer maintained the direct transmission of the disease, as well as the transmission of a morbid tendency toward it. The second point was supported by the citation of many cases where there seemed to be strong evidence that the disease was communicated by aerial contagion. Contagion from food was inferred as possible. Perlsucht, or bovine tuberculosis, is a disease distinct from human tuberculosis. The same form of tuberculosis affects cattle as the human subject; hence the consideration of tuberculosis in cattle becomes of importance to public health. The paper was illustrated by microscopic drawings from specimens of tuberculous lungs, which were used to enforce the distinction between catarrhal pneumonia and caseous or tuberculous pneumonia, when the stage of consolidation of the lung is reached.

In the discussion, Dr. J. H. Pooley, of Columbus, stated that he thought that the paper was not a theoretical one, but one of practical value. He had for a long time been convinced that phthisis was, under certain circumstances, contagious, and related a confirmatory case. He questioned the writer's statement that, because consumption is contagious, it cannot therefore originate *de novo;* chancroid is contagious, but it certainly can originate *de novo*, through filth, promiscuous intercourse, etc.

In response to a question, the author stated that the period of incubation would depend upon attendant circumstances in each case.

Dr. Reuben A. Vance, of Cleveland, read a paper on the

SURGERY OF THE ARTERIES,

in which he traced the distinction between disease of the arterial walls and wounds of arteries, showing the influence of the sac in the one case, and the results of extravasation of blood in the other, and objected to applying to the two the common name of "aneurism." He described nature's methods of curing aneurism by depositing layers of fibrin on the walls of the sac until the sac, or even the calibre of the artery, is obliterated. In some cases a layer of this fibrin becomes detached, and blocks up the efferent artery, when coagulation occurs, resulting in cure. Or, finally, inflammation and suppuration may set in, destroying the tumor, but generally killing the patient. In treatment, the force of the circulation need be but slightly diminished to induce a tendency to the deposit of these layers. This may be brought about by rest, position, pressure, or compression. Electro-puncture, the "old operation," manipulation and ligation, or torsion, are more radical means. The operations of Anel, Hunter, Brasdor, Wardrop, and Syme, were reviewed and compared.

[1] A considerable quantity of dark blood ran out of the heart in the separation of the heart and lungs.

[2] Dr. Young states that the man was subject to malarial attacks while in the jail.

[3] He had eaten a dinner about an hour and a half before the execution.

The fact that secondary hemorrhage frequently occurs from the end of the artery, beyond the ligature, was shown to depend upon nature's failure to properly seal it. Of radical operations for aneurism, Hunter's is undoubtedly the surgeon's choice—the distal operations being those of necessity.

After detailing the treatment of most cases of so-called false aneurism, the author found three classes of cases in which opinions differ as to the best course to be pursued, viz.: 1. Where a pulsating tumor forms about a wounded vessel, after, perhaps, the surface incision has healed. 2. Where blood has accumulated, and still accumulates, in the tissues about a wounded artery, external hemorrhage having ceased. 3. Where an enormous amount of blood distends the parts about a wounded artery. Dr. Vance held that in these cases, if rest, position, pressure, and compression failed to cure, the surgeon should cut down, turn out clots, and ligate above and below the seat of the injury. By so doing, he ligates no more than is essential, perhaps only a branch instead of a main trunk. He summed up as follows:

1. Bleeding from an accessible artery should be checked by twisting or tying both ends of the vessel. 2. Moderate hemorrhage from one not readily reached, should be controlled by rest, position, local pressure, compression, etc. 3. Severe hemorrhage from an artery, not controllable by pressure, etc., requires that the vessel be sought in the wound and both ends tied or twisted. (a.) An exception was noted in certain wounds of the hand or foot, where the danger of damaging important structures is great; here the ligation of femoral or brachial, with pressure, was advised. 4. In fractures complicated by wound or rupture of a large artery, the surgeon should at once cut into the swelling, turn out the clots, and twist or tie both ends of the vessel. 5. In pulsating tumors, following wounds or injuries of arteries, should rest, etc., fail, the tumor should be opened, clots removed, and the vessel tied or twisted above and below the lesion. 6. When a wound or injury of an artery has led to extravasation, no operation should be performed so long as rest, etc., can restrain further hemorrhage. (a.) An exception is to be noted where the extravasation is so great as to threaten gangrene, or where, after checking further increase, the above measures fail to reduce the size of the tumor. 7. If the extravasation caused by arterial wound or injury cannot be held in check and further hemorrhage prevented by position, etc., the tumor should be at once cut open, the clots removed, and the vessel tied or twisted, above and below the point of injury.

DR. D. HALDERMAN, of Columbus, thought the writer had failed to impress the treatment of diffused aneurisms, or traumatic aneurisms, where it was necessary to cut into the tumor and ligate both ends of the artery—Syme's operation. He thought one great danger in this operation lay in the risk of wounding the accompanying veins. Several years ago he had one of these cases, involving the point of termination of the femoral in the popliteal, in which he made the Hunterian operation successfully. The man is alive yet, but has a small tumor.

DR. J. H. POOLEY said that every surgeon should have a well-defined plan for meeting all emergencies, and aneurism belonged in this category, at least in this country. He did not quite see the pertinence of the criticism of the present nomenclature: "false aneurism" conveys a definite meaning, and is well enough retained. He believed in Mr. Guthrie's axiom, "Tie both ends of the artery," when possible. Syme's operation—the so-called "old" operation—is an operation of necessity, not of choice. Thought ordinary care and prudence would prevent injury to the veins. Did not think there was much new, or could be much new, in the surgery of the arteries since the days of Hunter.

EVENING SESSION.—This was occupied by a lecture by PROF. EDWARD ORTON (late President), of the Ohio State University, on

THE RELATION OF THE STATE TO PUBLIC HEALTH.

The lecturer took for his text Franklin's aphorism, "Public health is public wealth," and also Disraeli's statement, that "the health of the people is the first duty of the statesman." He first spoke of the loss to the State of sickness, especially of epidemics, referring to the estimated loss of Philadelphia, during the small-pox epidemic of 1871-2, of $24,000,000. With individual cases of sickness the State can have no concern, but in epidemics its power to act is universally conceded.

The lecturer sketched the growth of sanitary measures from the time of Moses, Plato, and Hippocrates, to the present, showing that during the fearful pestilences of the Dark Ages, "The curse causeless did not come." He thought the time was near at hand, which Dr. Benjamin Rush predicted, "when our courts of law shall punish cities and villages for permitting any of the sources of bilious and malignant fevers to exist within their jurisdiction.

He entered a plea for *system* in the making of public sanitary improvements, and protested against the work being undertaken by fickle-minded, temporary, and changing municipal boards. The work must be planned by a competent civil engineer. He spoke of a trunk sewer, "in a principal street in a great city, that, like a gorged serpent, was larger in the middle than at either end;" of others many times too large for any possible demand, which thus became mere reeking cesspools; and, worse still, of others built in villages, for general purposes, before a water supply had been secured or even thought of.

He next spoke of the pollution of rivers, and the necessity of laws for their protection. No city thinks of those that live below it, the practical doctrine being, "the devil take the lowermost;" and he quoted with effect Coleridge's lines—

> "The river Rhine, as is well known,
> Washes the city of Cologne;
> But, Oh! Ye gods and powers divine,
> What then shall wash the river Rhine?"

He closed with a line of argument showing the importance of and necessity for a State Board of Health.

WEDNESDAY, JUNE 14.

MORNING SESSION.—W. T. COELETT, M.D., L.R.C.P. London, of Cleveland, read a paper on the

ETIOLOGY OF CERTAIN CUTANEOUS AFFECTIONS.

Eczema he regarded as "a superficial dermatitis due to an *irritation* of the sensitive filaments of the peripheral nerves," the origin of this irritation being either external, *i. e.*, local, or internal, *i. e.*, constitutional. Psoriasis he thought was a local disease.

DR. N. P. DANDRIDGE, of Cincinnati, read a lengthy report on the progress in

SURGICAL DISEASES OF THE GENITO-URINARY ORGANS.

He spoke quite at length of prostatic diseases and of Bigelow's operation.

DR. VANCE said he would not exalt Bigelow's operation, perhaps, as highly as the writer, but he regarded it as a good operation. The operation itself was, however, but the natural outgrowth of the operations that preceded it.

DR. A. C. MILLER, of Cleveland, thought that enlargement of the prostate was of more real importance than all the other troubles described. Prostatorrhea, or chronic gleet, is due to a diseased gland, and its treatment by injections borders on malpractice, as liable to result in stricture or abscess.

Dr. P. S. Conner, of Cincinnati, said that cutting succeeded so well, that, for himself, he did not care to change to crushing under ordinary circumstances. If he had a stone in his own bladder, he would prefer to be cut. Better results follow; he once saw an autopsy at which eight calculi were removed from a man's bladder, in whom lithotripsy had been performed seven times. Cutting would have removed all these at once. He preferred rapid crushing to slow, but no one should attempt the operation until perfectly familiar with the instrument. For inflammation of the prostate, he recommended *hot* water rectal injections, by means of a double canula, or even an ordinary syringe, the stream being directed against the anterior wall of the rectum.

Dr. S. C. Dumm, of Constantia, spoke favorably of electricity for hyperæsthesia of the urethra.

Dr. P. S. Conner, of Cincinnati, read a paper on

EXTERNAL PERINEAL URETHROTOMY,

in which he highly recommended the operation in cases of deep, impassable strictures.

Dr. J. H. Pooley said that external perineal urethrotomy was his favorite operation, and he was glad the writer advised it. The doctrine that "where water can come out, a bougie can go in," is not true either in theory or practice, and after failure with bougies the knife is the best means of relief and cure.

Dr. Vance said there was much to be said in favor of the operation advocated, but he preferred the internal operation. In the great majority of cases, a single filiform can be passed; by letting this remain for twenty-four hours, a No. 6 or No. 10 can be passed, and then internal urethrotomy can be performed, with a better result than that obtained by the external incision.

Dr. W. J. Scott, of Cleveland, said he had several times failed with filiform bougies, but when cut down he ordinarily had little trouble. In these cases he adopted the following method: pass a sound, of fair size, *to* the stricture; cut down, taking care to make an incision *smaller* than the end of the sound: withdraw the sound a short distance, and then with a small probe, working through the incision, find the passage, follow the probe with a director and then use the knife. Pass a catheter, which is to be left in for some hours, until inflammatory deposits are thrown out so as to correct the curvatures. He had never failed with this method.

Dr. Sidney Norton, Professor of Chemistry in the State University, read a paper on the

CONTAMINATIONS OF DRINKING WATER.

No drinking water is chemically pure. The impurities, however, are not harmful if they consist of mineral matters, like clay or sand, which soon subside, or of fresh organic matters, vegetable or animal. Neither are the lime salts nor the alkalies harmful, unless in excess. The popular taste prefers a water of this sort. Neither is water harmful if it contain the final products of organic decomposition, viz., carbonic acid, ammonia, and the oxides of nitrogen, unless in large amount. But all decomposing organic matters are dangerous. One part in 1,000,000 will render water dangerous, as it may contain soluble and organized ferments, capable of multiplying a thousand-fold in a short time, and of inducing zymotic diseases. The writer accepted the conclusions of the London Board of Water Supply, that running waters are self-purifying, as are also those of deep wells and perennial springs.

Afternoon Session.—The following is the result of the

ELECTION OF OFFICERS.

President.—C. P. Landon, M.D., of Westerville.

Vice-Presidents.—Drs. E. Sinnett, A. C. Miller, N. Gay, W. B. Hedges.

Secretary.—Geo. A. Collamore, M.D., of Toledo.

Treasurer.—T. W. Jones, M.D., of Columbus.

Dr. Starling Loving, of Columbus, then delivered the

PRESIDENT'S ADDRESS.

He recommended a fixed place of meeting, which would naturally be at Columbus, where could be erected a suitable building for meetings, and a library and museum founded. The Code of Ethics was then considered, and the opinion was expressed that when we consent to associate professionally with irregulars we shall not elevate but, on the contrary, degrade ourselves from the high position we have always occupied, to the level of a mere trade, for most of them use their name as a trade-mark only, and appreciate fully that it comprises their sole claim upon the public.

Of course, if we modify our Code so as to permit fraternization, however limited, with homœopathists, we shall be obliged to extend the same courtesy to eclectics, spiritualists, uroscopists, *et id genus omne*, including Lydia Pinkham and the "retired clergyman whose sands of life have nearly run out," for, in the language of the surgeons, the line of demarcation is not very broad. The thought is not overly pleasant! It might be more so if what was done by the New York Society had been accepted as a concession and an expression of good will, but it was not .The homœopathic journals claim it as a great victory for their side, and as evidence that the regular profession is trembling for existence.

Finally, if we go with the New York Society, or, rather, the minority of that Society who changed the Code to suit themselves, we must consent to be dropped, like those gentlemen, from the fellowship of our own profession. This morning, in adopting your new Constitution, embracing the Code of the Association, you declared against it. The thing is impossible. The American Medical Association, our Supreme Court, has unanimously declared against it.

The evils arising from the increasing use of non-officinal and proprietary medicines, were noticed, and the methods of introduction, by seductive samples and equally seductive agents, graphically described. The growing use of such remedies was deprecated.

The failure of the Board of Health bill to pass was deeply deplored, and the importance of the measure insisted upon. In this connection the speaker referred to the poorly constructed and illy-ventilated State buildings, including the school-houses, which are so badly arranged in these particulars that myopia is rapidly increasing. He also spoke of the necessity of supervision in the location of towns, with their water supply and sewerage; of the adulteration of food; of protection against epidemics; of vital statistics, and of other matters properly coming under the control of a Board of Health.

In case of failure in establishing such a board, it was recommended that an attempt be made to have the State create a Board of Censors, to examine all who propose to practice, and "to stand between the people and the medical colleges." If both these plans fail, then the members of the Society should refuse to receive incompetent men as students.

The Address, though long, was listened to with the closest attention throughout.

Dr. S. C. Ayres, of Cincinnati, read a paper on

RETINITIS ALBUMINURICA.

After some general remarks, he referred to the comparative frequency of retinitis in cases of albuminuria. In 104 cases of albuminuria in the Cincinnati Hospital, during 1877, '78, '79, there were ten cases, or 9.6 per cent., of retinitis. Of these, five died, two were discharged improved, and three unimproved. He described the typical ophthalmoscopic appearance of the

fundus, and called attention to the necessity of the frequent use of the test-tube and microscope. He stated that nephritic retinitis occurred most frequently in cases of small granular or contracting kidney.

DR. PHILIP ZENNER, of Cincinnati, reported a *Case of Hemiplegia: Secondary Degeneration of the Pyramidal Tracts.*

DR. W. H. MUSSEY, of Cincinnati, next described the *Treatment of Chronic Cystitis by a Curette*, designed by himself for scraping the surface of the bladder.

The same gentleman also reported a case of *Removal of Astragalus for Necrosis*, in which his patient made an excellent recovery.

EVENING SESSION.—DR. J. R. BLACK, of Newark, delivered a popular lecture in the chapel of the Deaf-Mute Asylum, on *Preventing Diseases*, after which the members and invited guests partook of a banquet furnished them by the trustees of the institution.

THIRD DAY.

MORNING SESSION.—DR. G. S. FRANKLIN, of Chillicothe, read a paper on *Public Charity and the Medical Profession.* In this he dwelt especially on the defective and unjust laws in Ohio, relating to the care and medical treatment of the township poor.

DR. E. B. PRATT, of Mt. Sterling, read an exhaustive paper on the treatment of some of the more common forms of *Inflammation of the Knee-joint.* In acute inflammation he recommended rest, secured by Buck's extension apparatus, abstraction of blood locally, by leeches, cups, or incisions, diminishing the supply of blood by compressing the femoral with a sponge, cold, pressure by bandaging the joint over sponge. For erosion of the cartilages, use the actual cautery. After the acute stage has subsided, Sayre's knee-joint splint may be applied, so that the patient may be able to take exercise. Constitutional treatment from the outset, as needed. For the effusion, aspiration may be resorted to if necessary, but it should not be done merely for relief of pain, unless all other means fail. It will not shorten the acute stage. It should not be used when the effusion is purulent; the cartilages or bone being necrosed, make a free incision. It should be resorted to when the acute stage begins to subside, usually during the fourth week. For sub-acute inflammation use Sayre's splint, iodine, the rubber bandage, aspiration. Chronic inflammation requires extension, the cautery, pressure, thorough drainage, removal of necrosed tissue, anchylosis in straight position—if motion is despaired of, and lastly, excision or amputation. Medicated injections into the joint are apt to do more harm than good, and Listerism is not recommended.

DR. POOLEY strongly recommended irrigation by cold water through rubber tubing. Thought pain from effusion an indication for aspiration. For pressure, preferred adhesive straps. Proper classification would be into those cases involving the synovial membrane, and those affecting the bone. The latter are generally tubercular, and essentially chronic. Should be treated by plaster-of-Paris splint; put a thick sole on foot of sound limb, furnish the patient with crutches, and make him exercise. Amputation is safer and better than excision. It is not true that any sort of a leg is better than an artificial one.

DR. HAMILTON thought aspiration might be regarded as a curative measure, in acute synovitis, and related a case. Irrigation by tubing is efficient, but laborious and requiring attention. Advised extension to overcome flexion, and fixation by plaster.

DR. GARRISON, of Utica, while sanctioning all that had been said, recommended *hot* water to reduce the inflammatory action.

DR. MUSSEY, of Cincinnati, preferred Day's posterior splint. Leave joint exposed, and apply cold water or leeches. Aspirate, or open joint with knife by valvular incision. If the limb is to be elevated, the surgeon must remember to slightly flex the leg, else the joint will be pinched,

DR. W. MORROW BEACH, of London, read a paper on *Achievements and Failures in Medical Art.*

DR. W. B. DAVIS, of Cincinnati, read a report on the

PROGRESS OF MATERIA MEDICA AND THERAPEUTICS.

Therapeutics was formerly based entirely upon experience; hence many of the triumphs of medical treatment in the past we now know were mere coincidences. Progress in therapeutics, like progress in the practice of medicine, must be based on a knowledge of anatomy, physiology, pathology, and chemistry. To discover errors is to make progress. Modern therapeutics has done this, and in addition our knowledge of the physiological action of quite a number of drugs is now firmly established. Progress in this direction has been so rapid of late that even the present generation of physicians may live to see many of our present empirical methods of treatment supplanted by others founded on the solid rock of science.

DR. JOSEPH EICHBERG, of Cincinnati, read a report on the

PROGRESS OF LARYNGOLOGY.

Two topics were embraced in this report, viz., the pathology of laryngeal phthisis and the identity of croup and diphtheria. The importance of early diagnosis was mentioned, and the means of making it by laryngoscopic examination described. Tubercular disease of the larynx may often be regarded as primary, simply because of our inability to recognize the early deposit of tubercle in the lungs.

The writer maintained the identity of croup and diphtheria, claiming that both the pathological and clinical features bear out such a view. He attempted to reconcile the differences seemingly existing between the two, and to show that they often bear the same relation to each other as do the mild and severe cases of an epidemic of any acute infectious disease, the differences in the symptoms being dependent upon differences in function of the parts involved.

DR. GEO. W. GARRISON, of Utica, read a report on

CANCER.

He thought cancer was the result usually of a local injury, and he denied its hereditary transmission. It may appear at any age, but is most apt to attack the tissues at the time when they are undergoing degenerative changes. Cancer cells cannot be differentiated from constructive cells; the caudate cell does not necessarily imply malignancy. As to treatment, he has found escharotics to give very favorable results in 35 cases.

DR. GEO. A. COLLAMORE, of Toledo, read a report on

PROGRESS OF MEDICINE.

He spoke of the experiments of Pasteur and their important relation to medicine; of Koch's supposed discovery; of pyrexia; of the treatment of scarlet fever and diphtheria; and of the salicyl compounds in rheumatism.

DR. A. M. BLEILE, of Columbus, read a paper on

DIGESTION.

This paper was based largely on original experiments. He condemned any attempt at using *ptyalin* in medicine, as its action is rendered *nil* in the stomach. Pepsin does little good in dyspepsia unless accompanied by hydrochloric acid, or bismuth, which latter acts as a local stimulus. Pancreatic ferment is destroyed when taken into the stomach, hence it is useless as a remedy.

It being now late in the afternoon of the third day, the remaining papers were referred to the Publication Committee, and the Society adjourned, to meet in Cleveland next year, at the time of the meeting of the American Medical Association.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, June 1, 1882.

The President, Edward L. Duer, M.D., in the Chair.

Dr. B. F. Baer related the history of a case of *Punctured Wound of the Pregnant Uterus; Partial Escape of the Fœtus into the Abdominal Cavity; Retention of the Fœtus Five Years.*

October 4, 1881, Catherine Curley presented herself at the Dispensary for Diseases of Women at the Hospital of the University of Pennsylvania, and gave a history which is essentially embodied in the following letter from her physician, Dr. John Keogh, of Killaloe, Ireland. (This letter was received after the patient had been treated as described in this paper, but as it gives an intelligent description of the case at the time of the accident, it was thought proper to insert it here.)

"Catherine Curley, who was within a week of her confinement, was standing upon a chair, the back of which, with the exception of two uprights, had been broken away. She was at the time collecting brambles, and in stretching for one over-reached herself and fell, and in the act of falling her right side came in contact with one of the uprights. A short time after she was found lying on the ground in a fainting condition, from which position she was removed to bed and I was summoned to see her. On examination I found a contused wound on the lower and right side of the abdomen, and in addition came to the conclusion that the womb was ruptured and that the fœtus had escaped into the cavity of the abdomen. There was intense tenderness and great distention. I immediately decided on giving her at once calomel and opium—the latter in large doses. After the third day I stopped the calomel and continued the opium. The pain and tenderness almost disappeared after a week, and I may say from that period until she left here she never had a bad symptom."

"Several medical men in this county expressed doubt about the correctness of my diagnosis, but I at once convinced them by presenting the woman for examination at Limerick, a city near here, where many men of eminence and long experience saw her."

Dr. Keogh does not mention that the prong of the chair was driven into the abdomen, rupturing everything before it except the skin, which, on account of its great strength and elasticity, escaped unbroken.

It would seem incredible that the pain and tenderness should have almost disappeared in a week, and that she should not have had a bad symptom until five years had elapsed. She, however, recovered from the accident and, strange to say, menstruated three months afterwards and has been doing so regularly ever since. To make matters worse, if possible, her husband, who was in the last stage of phthisis at the time, died within a week, and she was left without means to support a family of five small children. This she did through four years by manual labor. Three years ago she came to this country and settled in Salem, N. J., where last summer she was under the care of Dr. E. S. Sharp, at which time she passed through an attack of what seemed to be typho-malarial fever, in consequence of which she became somewhat emaciated, and her muscles became relaxed and toneless. This allowed a hernial protrusion through the puncture in the abdominal wall; for this she sought relief, hoping to procure a suitable truss. I only obtained the history of the accident by direct questions in regard to the cause of the hernia, that being regarded by the patient as the greater difficulty and the one requiring treatment. Physical examination with the patient in the dorsal position revealed, by palpation of the abdomen, a circumscribed mass in the hypogastric region, extending as high up as the umbilicus, and a little farther to the left than to the right of the median line. It was about the size of the pregnant uterus at the sixth month, rather flaccid, and pressure on it gave to the hand the sensation of loose bones moving over each other—a kind of crepitus. On the right side of the abdomen, a little below the umbilicus, there was a round perforation, about the size of a silver dollar, which seemed to penetrate everything except the skin. Through this break in the abdominal wall the intestines protruded when she was upon her feet, constituting the ventral hernia for which she desired the truss. Examination *per vaginam* gave the following result: The cervix uteri was small, hard, rather low down, and pointing forwards in the direction of the vaginal orifice. The os externum was small and circular, but it was patulous, and flowing from it was a peculiar yellowish fluid, slightly fetid. The finger, carried posterior to the cervix, discovered the body of the uterus enlarged, and apparently expanded around the loose bones referred to above. Now, carrying the finger to the anterior surface of the cervix, the same bulging forward was discovered, and the same continuation of the anterior wall of the cervix into what appeared to be the anterior wall of the developed uterus. Bimanual examination seemed to confirm the opinion already formed that the fœtal remains were still, in part at least, within the uterine cavity. On the right side of the uterus, near the fundus, there was a prominence; otherwise the walls were smooth. I now passed the sound through the os and into the uterine cavity, when it came upon a mass of bones which seemed to be loosely held together by disintegrating soft tissues. The instrument was readily passed to a depth of six inches, and could be moved about with the greatest ease, and without the least sensation of pain to the patient. Its withdrawal was not followed by any discharge. There was nothing about the case which led me to suspect even that the sound had not really passed into the uterine cavity, but, instead, that it might have passed through an opening in the uterine wall, near the cervix, into an extra-uterine cyst containing the fœtal remains. It may, however, have passed through the opening which was afterwards found near the fundus, but not before meeting with that portion of the remains surrounded by the expanded but flaccid uterine walls.

I was naturally, I think, rather inclined to disbelieve the history of rupture of the uterus, from such an accident, to a degree sufficient to allow the child to escape into the abdominal cavity, since the subject was alive and before me. I sought to explain the unusual condition by one of the following hypotheses, viz.: *First*, that the pregnancy had been an extra-uterine one and probably of the interstitial variety; that the accident resulted in the death of the child merely, and not in rupture of the gestation sac; that it then remained a harmless body until the patient had become reduced by the fever noted above, when it began to disintegrate from decomposition and be thrown off *per vaginam*, after first ulcerating its way through the uterine wall into the cavity of the uterus; but this could not have been so and the physical condition set down as the result of my examination exist. *Second*, that it was one of those very rare cases of so-called missed labor in which, for some reason, shock of an accident for instance, by which the nervous system is so depressed

that there is not power enough to cause uterine contraction, the product is retained indefinitely within the cavity of the uterus. *Third* (and considered the correct explanation), that the uterus was really ruptured, but that a portion only of the child escaped through the rent, thus preventing by pressure a loss of blood which would otherwise have probably resulted in the death of the patient, and that the portion which projected through the rupture became encysted, thus forming a cavity continuous with the uterine cavity, the whole mass remaining harmless until through the intercurrence of an exhausting disease, decomposition set in, and it began to poison the patient. It is not necessary to offer an explanation, if the latter hypothesis be correct, why the uterus did not contract and expel its contents, because it is well known that in the event of a rupture occurring during labor the pains immediately cease. But in any event expulsion could not have been accomplished here with the child held fast in the rent. Then, I think, the fact that the patient came so readily out of the collapse and recovered so quickly, and that the child lived so long (it is said to have lived three days), prove pretty conclusively that there was no great blood loss, and that the child did not escape entirely from the cavity of the uterus. The child dies very soon after it is expelled into the abdominal cavity for two reasons, viz., maternal hemorrhage, and interference with the function of the placenta and cord. Hemorrhage did not occur, if my theory is correct, for the reason stated above, and the functions of the placenta were not interfered with at once because it was not separated from the uterine wall suddenly, nor compressed as would have been the case had the uterus been empty and contracted.

My advice to the patient was that she submit to an operation for the removal of the decomposing mass, as I considered that she was suffering from slow septic absorption. The operation I suggested was dilatation of the os uteri and removal of the dead product *per vias naturales*. This I looked upon as the most feasible operation, for the reason that it seemed to be of such easy access through that channel, and therefore the one which would be attended by the least amount of danger. Removal by laparotomy would have been most hazardous, since it would have been necessary to open the cyst, and therefore the old rupture of the uterus. There would then have been a fistulous opening in the uterine wall, which would probably have been closed with difficulty, if at all. Moreover, the sac would very likely have ruptured, thus precipitating the contents into the peritoneal cavity. This, of course, would have been a grave complication, as the decomposing material would have been removed with difficulty and danger. Against removal through the os uteri was the possibility, if not probability, of rupture of the sac containing that portion of the fœtus outside the uterus and expulsion of the contents into the abdominal cavity. This might have necessitated laparotomy for the cleansing of the peritoneal cavity. The patient, however, refused at that time to have the operation performed, and returned to her home.

December 16, 1881, she again presented herself at the dispensary, and exhibited undoubted evidence of septic absorption in rapid pulse, evening rise of temperature, and night-sweats. Examination now showed the mass to be much lower in the hypogastrium, and apparently smaller than at the previous examination. The cervix was, however, of the same length and still hard, with no tendency towards dilatation of the os. The sound revealed the dead product to be nearer the os, and altogether this examination served to confirm my former opinion that the product was largely contained within the uterine cavity, and that it could be removed through the os and vagina. This opinion was strengthened by the fact that there had been evident contraction of the walls surrounding the mass. She still refused to submit to the operation, and returned to her home. Her health continued to depreciate, and she was glad, on January 3, 1882, to enter the gynecological ward of the Hospital of the University, in charge of Dr. Goodell.

After careful examination, Dr. Goodell confirmed, in the main, the opinion expressed above as to diagnosis and treatment, and two days later introduced into the os uteri one sponge and four laminaria tents. Next day the patient was anæsthetized and the tents removed, when an effort was made to remove the fœtus. A fenestrated polypus forceps was passed into the cavity and made to grasp the contents; this was readily done, but the removal was not so easily accomplished, for when traction was made it was found that the fœtus was held firmly somewhere, and that it was so disintegrated that only the portion within the grasp of the forceps could be withdrawn with the instrument. This was repeated a number of times, each withdrawal of the forceps bringing away a bone or some broken-down soft tissue. A discharge of about a pint of very fetid thin fluid took place at this stage of the operation. The os was now becoming so small from contraction of the cervix that the forceps could scarcely be made to pass, and an effort was made to secure further dilatation by the use of Molesworth's dilator. But it would not work, because it was out of order from long disuse. The only thing left to do was either to introduce another set of tents and wait until they had dilated the cervix sufficiently, or incise the neck to the vaginal junction. The latter was done. The danger of septic absorption from such a proceeding was fully considered, but it was decided that to introduce another set of tents, let the patient come out of anæsthesia and wait for their slow dilatation would be the greater evil. Before and after the incision, the parts were thoroughly disinfected by injections of a permanganate of potash solution. The same polypus forceps were now more readily introduced into the cavity and the mass broken up. This was followed by a profuse, thin, bloody, purulent discharge of the most fetid character. An injection of the permanganate solution was now made into the cavity of the uterus until it returned unchanged, when another effort was made to remove the contents. After working for more than half an hour, only a part of the product was withdrawn. At this stage of the operation considerable hemorrhage occurred, and this was increased with each endeavor to dislodge the mass from its nidus. For this reason, and because the patient was becoming weak (she had now been under ether one and a half hours), it was thought prudent to discontinue further efforts for the present, and to depend upon antiseptic injections and contraction of the uterus to remove the remainder, or, at least, to allow the patient to recover from this desperate condition and gain strength to stand a second effort after the mass had undergone further disintegration. There was also a fear of rupturing the cyst containing that portion outside of the uterine cavity by further efforts.

The patient came out of the anæsthesia slowly, and in a state bordering on collapse, in which condition she remained for nearly twenty-four hours, when she gradually reacted. During the next four days there was a very fetid fluid discharged from the cavity of the uterus, together with some débris from the decomposing mass. The patient had to be removed from the ward on account of the odor. The treatment was supporting, with very frequent irrigation of the vagina and uterine cavity with antiseptic solutions.

On the fifth day after the first operation, the patient evidently suffering from septicæmia, and there being

no marked effort on the part of the uterus to throw off the remains, she was again etherized, and another attempt was made to remove them. It was found that time had somewhat disintegrated the contents, and that, therefore, removal would be more easily effected. Bone after bone, and occasionally a piece of soft tissue, were withdrawn, until, at the end of about an hour, the cavity was almost entirely emptied. I say almost entirely, because it seemed impossible to get every small bone away, and for several weeks afterwards an occasional bone would be thrown off *per vaginam* The cavity was thoroughly washed out with the disinfecting solution, and an examination made to discover the seat and extent of the rupture.

The cavity of the uterus was large and rough, and in the right side of its body there was discovered an opening through which two fingers could be readily passed into a cavity beyond.

The recovery of the patient was slow; indeed, her life was despaired of for weeks, during which time she suffered from numerous pyæmic abscesses. One of these abscesses was post-ocular, and resulted in the loss of the eye. She finally left the hospital, restored to health.

Removal of a Mammary Tumor and of Enlarged Axillary Glands; Primary Union.—Dr. W. H. Parish exhibited the specimens and read the following history. The patient from whom the specimens presented were removed is a lady of very slight stature, sixty-two years of age, and the mother of several children. There is no history of cancer in her family.

About twenty-five years ago she noticed a hard lump in the axilla, about the size of a partridge egg, painless, though tender on pressure. It was first noticed during a period of lactation. Subsequently she was again confined and passed through the usual time of lactation with a slight increase only in the size of the axillary tumor. For about twelve years after the first appearance of the axillary tumor she never noticed a lump in the breast. About twelve years ago, however, she, for the first time, recognized the presence of a mammary mass, then about the size of a partridge egg. This was about the menopause; at that time she lost in flesh, though her general health remained good.

The mammary tumor increased in size very gradually; continued free from pain, except when something would press unduly against it. About twelve months ago she thought the tumor had begun to increase in size a little more rapidly, and occasionally gave a sensation of soreness. This change in the tumor was ascribed by the patient to carrying in her arms a grandchild.

At the time of the operation the tumor in the breast was about the size of a small lemon, very hard and somewhat nodular, and was at the upper and outer border of the gland. It was perfectly movable over the pectoral muscle, and presented a distinct elevation above the general skin surface. The skin was not entirely movable over the mass, but was not hardened or otherwise altered in character. There was no nodular involvement of the integument. The superficial veins were not enlarged. The nipple was not retracted; seemed entirely normal, and no fluid could be pressed out of it.

There were three enlarged axillary glands, the largest very hard and a little larger than a partridge egg. There was no enlargement of the glands above the clavicle. Owing to the long duration of the masses, their entire mobility, the freedom of the skin from nodular infiltration, the absence of retraction of the nipple and of oozing from it, and also owing to the evident atrophy of the mammary gland, I concluded not to remove the entire breast, but only the tumor, including those of the axilla, and to remove also the integument overlying the mammary tumor. This I effected by an elliptical incision, and then extending the incision to the axilla, removed three enlarged lymphatic glands. It was not necessary to ligate any vessel; the oozing, which was not great, was stopped entirely by the use of hot water. The incision was about seven inches long. The edges were approximated by deep silk sutures. A few strips of rubber adhesive plaster were applied, and all covered with a layer of salicylated absorbent cotton, and the chest surrounded with a flannel binder. This entire dressing was allowed to remain until the fourth day, when, on removal of the cotton, it was seen that primary union had been secured throughout the entire incision. There was neither hardness nor swelling to indicate inflammation. On the sixth day the sutures were removed, and on the tenth day the patient sat up. No medicine of any kind, not even an anodyne, was given during the entire treatment.

The long duration and small size, the normal appearance of the nipple, the freedom of the skin from pitting and nodular infiltration, and the mobility of the mammary tumor over both the pectoral muscle and on the mammary gland, have led me to hope that the growths are fibromata, but the enlargement of the axillary glands and their induration make me fear carcinoma.

Microscopical Examination by Dr. Henry Beates, Jr.—The specimen presented by Dr. Parish is of unusual pathological interest. When it is remembered that the growth was present for nearly thirty years without undergoing a noticeable change, and only during the last year occasioned suffering and was accompanied with axillary involvement, the question of malignancy suggests itself, especially as the clinical history almost forces the diagnosis of adenoma. As many representative pathologists incline to the belief that typical mammary adenomata do not undergo carcinomatous degeneration, and many assume a conservative or noncommittal position; this instance is of unusual interest, and demands close study. Sections were made through the mass and including the cutaneous surface. The skin, so far as the stratum corneum and rete mucosum are concerned, is normal, but in the corium are areas of inflammatory changes. The radicles of several of the vascular papillæ are choked and surrounded by numerous embryonic cells and inflammatory corpuscles. The larger vessels are in a like manner involved, and the tissue in their immediate proximity infiltrated. The pars reticularis, where it becomes continuous with the subcutaneous connective tissue, is, in many places, the seat of proliferated connective-tissue corpuscles.

The *glandular structure* shows beautifully its purely adenoid character. The acini, although filled with cells and almost hidden from view, are, with care, easily distinguished. The interacinous connective tissue is hyperplastic. The hyaline membrana propria is partially destroyed and the acini filled with degenerated epithelial cells and cellular elements of increased size, possessing many nuclei. Some of the acini have the membrana propria entirely destroyed. The lymph spaces are occluded by cells, multinucleated and of increased size and irregular contour. The interacinous fibroid tissue presents incipient formation of stroma and aggregations of cells.

The axillary gland is completely altered in its structure, and instead of the mass of lymphoid cells occupying large spaces, bounded by the characteristic fibrous stroma with its triangular basal form, we have typical carcinomatous structure. Fibroid stromata joining at acute angles, forming numerous interspaces filled with irregular multinucleated cells, characterize the degenerated gland as carcinomatous. This fact, in conjunction with the changes seen in the mammary gland,

proves conclusively that the breast tumor was originally a typical adenoma, which, after thirty years, began to undergo malignant degeneration, and became a centre from which the axillary glands were infected.

DR. ROBERT P. HARRIS remarked that a point of great interest in the history of this tumor was the long period during which it remained dormant. He had had under observation a case in which a mammary tumor had remained perfectly dormant for seventeen years, during which two pregnancies occurred. After the second labor the tumor commenced to enlarge, and became painful; an operation for its removal was performed some months later, when it had attained the size of a duck's egg. A chain of nine enlarged glands was removed with the tumor. The tumor recurred in the same breast, and was followed by one in the other breast, and numerous hard nodular growths over the entire body. Her death was due to this cause.

Two aunts of this patient, living in the South, had died of cancer. A sister had a tumor in the abdominal wall, which was allowed to attain the size of a door-knob without interference. At that time Dr. Agnew and other surgeons were opposed to the advisability of an operation. After a year the tumor commenced spontaneously to discharge a purulent matter. It was then successfully removed by Dr. Agnew, who pronounced it an encephaloid growth. It had made no attachments to the underlying vital tissues, and has shown no signs of returning. Two years have elapsed since the operation.

NEW HAMPSHIRE MEDICAL SOCIETY.

Ninety-second Annual Meeting, held at Concord, June 20 and 21, 1882.

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, JUNE 20TH. — The Society convened in Union Hall, at 11 o'clock A.M., with the PRESIDENT, DR. H. B. FOWLER, of Bristol, in the Chair, and was opened with prayer by Rev. Mr. Parkhurst, of Concord.

The roll of members showed one hundred and thirty present, and eighteen new members were admitted.

The usual committees for the session were appointed by the President, and the routine business of the programme occupied the time until 12 o'clock, when the PRESIDENT delivered

THE ANNUAL ADDRESS,

as is prescribed by the by-laws of the Association. He referred to the general prosperity of the Association, its harmonious working for the good of the profession, and referred to the necrology of the past year in fitting terms; afterwards he referred to the relations existing between the profession and the pharmacist, and condemned in unsparing terms the ethics of those who allow their names to be used in the public recommendation of elixirs, peptones, mineral waters, wines, etc., and withal with so much humor that his audience could not refrain from laughter from the ridiculous position in which such practices placed the profession.

The address was well received, and it was very evident that the country physicians, while holding fast to all pharmaceutical preparations that prove to be of actual worth, have but little sympathy with those who are ever ready to append their names to drugs, not officinal, and articles of doubtful utility, even though they hold a chair in some of our medical colleges or may be editors of some medical journal.

DR. CHARLES F. LESLIE, of Sunapee, read a

REPORT ON PRACTICAL MEDICINE,

devoting a large portion of the same to a consideration of *typhoid fever*, which has prevailed in his locality, giving some of his observations and conclusions.

He remarked that in the past eight years he had treated cases of typhoid fever in every month of the year, and among the old and young as well as the middle-aged.

The town of Sunapee is located on the shores of a lake of the same name, the water of which is very clear and cold, is 1200 feet above the level of the sea, and with very little alluvial deposit. The principal village of the town is situated at the outlet of the lake, and it has been observed by the Doctor that when the water in the lake was the highest the people in that vicinity suffered most from typhoid fever. It did not appear in his paper that the water of the lake was used for domestic purposes, therefore it would seem to be a coincidence rather than a cause of the disease.

DR. H. M. FIELD, Professor of Materia Medica at Dartmouth Medical College, read an essay on "*The Balsamic*," that was replete in character, and any mere abstract would fail to do the paper justice.

DR. E. F. MCQUESTIEN, of Nashua, read the *Report on Surgery*, giving a review of the legal case of Holt *v.* McQuestien, tried in Hillsborough County, in 1881, for alleged malpractice, in which the verdict was given for the defendant, and several other surgical cases where the ankle-joint was injured. He recommended that the Society prepare a new law which will oblige those parties bringing suits for malpractice to give bonds to indemnify the defendants if their charges are not sustained.

DR. G. L. MASON, of Laconia, delivered an oration on the *Now and Then* of the medical and surgical methods of the orthodox practitioners. He spoke of some of the remarkable cures effected by the heroic treatment of old, and then in a very happy manner contrasted the therapeutics of disease to-day with that of fifty years ago.

DR. M. T. STONE, of Troy, read a dissertation on *Tobacco*.

DR. H. M. FELT, of Hillsborough, submitted an essay on *Emetic Medication*, which was read by its title and referred to the Committee of Publication.

DR. D. P. GOODHUE, of Springfield, reported the death during the last year of Dr. A. B. Hoyt, of Grafton; Dr. E. K. Webster, of Pittsfield; Dr. Harrison Eaton, of Merrimack; Dr. John A. Dana, of Ashland; and appropriate obituaries were read and referred.

DR. SMITH, of Hanover, exhibited a "*horse-shoe*" *kidney*, and read an essay upon the subject.

DR. I. A. WATSON, Secretary of the State Board of Health, read a paper on

STATE MEDICINE,

recommending to the medical profession the educating of the people upon sanitary and hygienic matters as the only effectual method of the prevention of diseases that are produced by bad sanitary conditions. He pointed out many of the dangers of improper ventilation of dwelling houses, school-rooms, churches, public halls, etc.; also the serious results that follow water contamination, and the great danger of pollution of wells and springs from the filthy conditions that surround many houses. Many instances and illustrations were given, showing that the poison of typhoid fever and some other diseases might be conveyed a long distance in water currents even under ground and then produce disease in some other localities. He asserted, with proof, that the popular idea that ice was always pure because the process of freezing eliminated its organic impurities, was a false theory, and that ice from any source but that of pure water was dangerous to health. He believed that the public entertained false ideas concerning contagious diseases; that scarlet fever and diphtheria should always be as promptly and efficiently isolated as small-pox, since they were

infinitely more fatal diseases. The paper appealed strongly to the profession to endeavor to correct many erroneous ideas, and to leave no efforts undone to prevent disease and to secure the greatest possible good for the people.

WEDNESDAY, JUNE 21ST. — The Society met at 8 o'clock A.M., and reports of district societies, delegates, and other routine business was in order until 9 o'clock, when, by a by-law of the Association, the election of officers takes place.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—A. H. Crosby, M.D., of Concord.
Vice-President.—J. W. Parsons, M.D., of Portsmouth.
Treasurer.—D. S. Adams, M.D., of Manchester.
Secretary.—G. P. Conn, M.D., of Concord.
Anniversary Chairman.—A. P. Richardson, M.D., of Walpole.
Executive Committee.—Drs. J. W. Parsons, of Portsmouth; P. A. Stuckpole, of Dover; and M. W. Russel, of Concord.

The *Treasurer's Report* was read and accepted. It showed the finances of the Society to be in good condition. The Treasurer was directed to notify all who were in arrears, and to prepare a list of the members for publication in the Transactions for this year.

Several cases were reported. The Society then adjourned to meet in Concord, the third Tuesday in June, 1883.

CORRESPONDENCE.

POISONOUS EFFECTS OF SALIVA.

To the Editor of THE MEDICAL NEWS.

SIR: In a report of the proceedings of the West Philadelphia Medical Society, published in THE MEDICAL NEWS of May 27 (p. 585), I find the following remarks by Dr. Formad:

"Dr. Sternberg, of the U. S. Army, made recently some experiments, by injecting saliva under the skin of dogs, in the pathological laboratory of the University of Pennsylvania, and concluded that the poisonous effects were produced only by the saliva of persons who did not smoke, or who lived in hot climates. 'But,' said Dr. Formad, 'I am an inveterate smoker, and my saliva killed as promptly as any one's.' A student of mine, Mr. Claxton, made a number of experiments, and could not corroborate some of Dr. Sternberg's conclusions. On the contrary, he found that any saliva, even that of animals, promptly killed those experimented upon."

I am very sorry that my friend, Dr. Formad, has made it necessary for me to correct this very inaccurate statement of my experiments and deductions from the same.

I did not experiment on dogs in the pathological laboratory of the University of Pennsylvania, nor did I conclude that poisonous effects were produced only by the saliva of persons who did not smoke or who lived in hot climates.

During the progress of my experiments, *which were made upon rabbits*, I considered the possibility that the use of tobacco might neutralize the virulence of saliva, and consequently made notes as to whether or not those persons who furnished saliva for these experiments used tobacco. The result showed that this habit was without influence, and no mention is made of tobacco in my published report (*National Board of Health Bulletin*, April 30, 1881). If Dr. Formad had taken the pains to read this report, he would have found the following:

"The saliva of four students, residents of Baltimore (in March), gave negative results; eleven rabbits injected with the saliva of six individuals in Philadelphia (in January), gave eight deaths and three negative results; but in the fatal cases, a less degree of virulence was shown in six cases by a more prolonged period between the date of injection and the date of death. This was three days in one, four days in four, and seven days in one.

"*Query.* Is there any recognizable peculiarity in the saliva which exhibits the greatest degree of virulence?

"*Answer.* In the case of Dr. Sternberg, whose saliva shows an exceptional virulence, the teeth are sound, the secretions of the mouth normal in physical properties and reaction, and the general health good. There is, perhaps, an unusual flow of saliva, but no other noticeable peculiarity.

"*Query.* Is there any plausible hypothesis by which this difference in virulence can be explained?

"*Answer.* This question will require for its solution more extended experiments. In the meantime it may be mentioned, as having a possible bearing upon the subject, that Dr. Sternberg has been engaged to a considerable extent, during the past two years, in studies which have brought him in contact with septic material. Dr. Formad, of Philadelphia, whose saliva killed (after a longer interval) two rabbits, is pathologist to a large hospital, and consequently is constantly brought in contact with septic material. Mr. N. and Mr. B., whose saliva killed all the rabbits operated upon, (four), are residents of seaport towns in Cuba.[1]"

Finally, Dr. Formad says that Mr. Claxton, a student of his, made a number of experiments, and could not corroborate some of Dr. Sternberg's conclusions. "*On the contrary, he found that any saliva, even that of animals, promptly killed those experimented upon.*"

How the additional fact that saliva of animals kills rabbits, when injected beneath their skin, is opposed to the facts reported by me with reference to the lethal effects of hypodermic injections of *my* saliva, I fail to see. I do not refer in my report to the effect produced by the subcutaneous injection of saliva, other than that of man, not having made the experiment. But I have experimental evidence that "*any saliva*," that is to say, all saliva, does not kill rabbits, for, as stated in the above quotation from my report, I had three negative results in Philadelphia and four in Baltimore with human saliva other than my own. I have, also, recently introduced the sputa of several tubercular patients beneath the skin of rabbits without producing fatal septicæmia. Whether these rabbits will become tuberculous, remains to be seen, and will be duly reported when the experiments are completed.

Yours respectfully,
GEO. W. STERNBERG,
Surgeon U.S.A.

FORT POINT SAN JOSE, SAN FRANCISCO,
June 8, 1882.

MEDICAL TESTIMONY FOR THE DEFENCE IN THE MALLEY CASE.

To the Editor of THE MEDICAL NEWS.

DEAR SIR: In your editorial criticism of my testimony in the "Malley case," in your issue of June 24th, you have done me injustice, unintentionally, I have no doubt, as you must have derived your information from the notes of the testimony in the newspapers. Most of these notes were inaccurate in many particulars.

[1] The possibility that this septic condition of the secretions of the mouth may bear some relation to the protection which these Cubans and myself enjoy against yellow fever, which is a disease presenting many points of resemblance to septicæmia, has occured to me, and without, at present, laying any great stress upon this possibility, I think it worthy of further experimental consideration.

In the first place I made no comments "on the conduct of the chemical investigation."

Second. You have mistaken the place where the examination of the hymen was made, for that at which the post mortem was held by Dr. Prudden; the first being held in a low, dark basement used as a prison in West Haven; the second at the shop of the undertaker in New Haven. I did "disapprove of the dark-room, or morgue, where the autopsy of the hymen was made."

Third. I did not *admit on cross-examination* the absence of inflammation of the stomach in cases of arsenical poisoning, but stated the fact with the authorities on my direct examination.

Fourth. My attention, while on the witness stand, was not called by either the prosecution or defence to the subject of arsenic eating. If it had been, I should have said that the Styrians become gradually accustomed to its use, and consequently do not suffer from its toxic effects.

Fifth. I did not *maintain the "constancy of inflammation of the stomach as a result of arsenic in toxic doses;"* but stated that inflammation of the stomach was sometimes absent, and gave the reasons for it, with the authorities.

Very truly yours,

P. A. Jewett.

New Haven, June 29, 1882.

NEWS ITEMS.

BROOKLYN.

(*From our Special Correspondent.*)

The St. John's Hospital.—The new structure of this hospital was formally opened June 24th by Bishop Littlejohn, assisted by numerous clergy of the Protestant Episcopal Church. The building just completed is a five-story brick and stone chapel and westerly wing, 139 feet in length and 95 feet broad. The cost was $80,000 exclusive of land. It will accommodate 125 beds, open to all irrespective of creed, sex, or age.

The New Code.—At a recent meeting of the Medical Society of King's County, the question of endorsing or rejecting the new Code of the State Medical Society was brought up. No vote was taken on its merits, but its consideration was ordered to be made a part of the regular order of business of the regular meeting in October next.

LONDON,

(*From our Special Correspondent.*)

Davy's Rectal Artery-Compressor.—I am not aware whether Mr. Richard Davy's rectal compressor, or lever, has found any favor with American surgeons, but it has been used now on many occasions in England, and, on the whole, with signal success. Having just witnessed a fatal accident with it, however, I feel compelled to give a note of warning concerning its use. Lest some of your readers may not be familiar with the lever, let me just say that it is a well-turned straight circular wooden rod, about the circumference of the little finger, and two feet in length. It is used by passing about seven inches of it (in an adult) up the rectum and towards the side to be operated upon; on then raising the handle or part outside the anus, the upper end compresses the common iliac artery just in the depression between the bone of the sacrum and ilio-pectineal line. Amputation at the hip-joint, or high up in the thigh, can then be performed without any arterial hemorrhage, and the vessels are controlled with remarkable ease. I have seen the lever used on several occasions, and there can be no doubt that it answers admirably, and that, when properly applied to the artery, there need be no anxiety on the score of hemorrhage.

In Mr. Davy's little *brochure* (surgical lectures) details of several cases in which it has been used will be found. The lever has lately been modified, having been made smaller than it was originally, and it has been provided with a gum-elastic sheath—this is flexible, and is easily passed into the rectum and takes the direction of the gut, and the rigid rod is then passed into the sheath. As the case to which I am about to refer has not been made public, I will not mention any names; but, as I assisted at the operation, I can vouch for the accuracy of the facts. The patient was a man of middle age, on whom an operation for ununited fracture high up in the shaft of the femur had been performed, without success, and amputation of the limb was determined on. Mr. Davy was requested to use his lever. This he did, first of all passing up an injection of olive oil, then the flexible sheath, and lastly the wooden lever. There was no difficulty experienced in all this, but it was found necessary to raise the handle of the lever more than is usually the case before all pulsation in the femoral artery ceased. The vessel was completely controlled; absolutely no arterial blood was lost; and at the close of the operation we all congratulated ourselves on the success of the lever. The patient progressed favorably for twenty-four hours. Symptoms of peritonitis then made their appearance, and the man rapidly sank and died. At the autopsy the usual signs of peritonitis were found, and the cause was detected in a perforation of the rectum just seven inches from the anus. The rectum elsewhere appeared healthy; there was no sign of ulceration about the perforation, and there can be no reasonable doubt but that it was produced by the end of the lever. I should say it was the right common iliac artery that was compressed. It is commonly stated that the same thing has occurred in the practice of an eminent surgeon in one of our large northern towns, but the case has not yet been published. But whether or no, it has now happened in the hands of him who originated and has closely studied this method, and is more experienced than any one else in its employment. Mr. Davy had no suspicion at the time of the operation that anything had gone wrong. The only other mishap with the lever that I am aware of is the impossibility of passing it sufficiently high up the rectum. This once happened to myself. After an oil injection, and using all the force I considered safe, I quite failed to pass the lever more than four inches. After the death of the patient, we found a sharp bend of the rectum, which rendered it impossible to pass the lever, even on the post-mortem table. Although I have been a warm supporter of the lever hitherto, I now feel that its use must be abandoned. It is now demonstrated that at any rate for compressing the *right* common iliac artery it is *dangerous to life*, and considering that there are other means of controlling the vessels, which in skilful hands are not unsuccessful, I shall never again use the lever. Whether it may be safely used in all cases for compression of the *left* artery, is another question as to which I should not like to dogmatize.

Medical Advertising in the Lay Press is the ethical discussion most heard just now. A short time ago nearly one whole side of the *Times* was occupied with advertisements of medical works published by Smith, Elder & Co. The matter has been taken up by the *Lancet* and by the College of Physicians, and it is hoped that this flagrant breach of professional conduct may lead to such an expression of opinion as will check the practice altogether. We have no wish to see medical works puffed by the same artifices which are used to sell cheap sherries, mineral waters, and whiskey.

VIENNA.

(*From our Special Correspondent.*)

DEATH OF PROF. CARL MAYSHOFER.—Carl Mayshofer, Professor of Gynecology, in the Vienna University, died upon June 3, in his forty-sixth year, at Franzensbad. He was born June 2, 1837, in the city of Steyer, his father being a physician. He completed his gymnasial studies in Kremsmünster, where he studied zealously the natural sciences, especially astronomy. After completing his medical studies in Vienna, he became an operative pupil of Schuh, afterwards Arlt's assistant. During this time, he wrote a noteworthy treatise upon ophthalmology. Later, he determined to devote himself exclusively to obstetrics and gynecology. As the assistant in the first obstetrical and gynecological klinik in the Allgemeines Krankenhaus (Carl Braun's wards), he published a paper which attracted very general attention. He sought to investigate the etiology of the puerperal process, and to demonstrate the parasitic nature of childbed fever in this brochure. Such a publication, twenty years ago, is sufficient to establish the high intellectual character of the man. Among his numerous more recent literary ventures may be named the following: "Ueber die Anwendung des Secale Coruntum in der Geburtshülfe," "Ueber die Entstehung des Geschlechtes beim Menschen," "Gegen die Hypothese, die menschlichen Eierstöcke enthielten männliche und weibliche Eier," "Eine Bemerkung zu J. C. Dalton's Ansicht vom Corpus luteum der Schwangeren," "Die Ueberwanderung der Eier," and finally an article in Pitha-Billroth's text book, "Ueber Sterilität, Entwicklungsfehler und Entzündungen des Uterus." Notwithstanding all this, notwithstanding his high general culture, he was not successful in obtaining the position for which he most earnestly strove. Several years ago, he went to Russia to obtain the recognition denied him at home. In Liflis and St. Petersburg, though acknowledged as a most skilful gynecologist, his life was rendered so unpleasant by professional jealousies, that he returned to Vienna to devote himself almost exclusively to literary work. Franzensbad became his final home, a short time since, when a severe disease of the liver ended his useful, fruitful, and brilliant life.

PROF. DUCHEK'S CHAIR OF INTERNAL MEDICINE.—There still exists great difficulty in the selection of a successor to Duchek. Prof. Nothnagel, of Jena, was warmly supported at the last meeting of the College of Professors. The Department of Education and the College of Professors are not adverse for once, in a great number of years, to a foreigner.

PRIVAT DOCENT DR. HANS CHIARI'S APPOINTMENT AS EXTRAORDINARY PROFESSOR OF PATHOLOGICAL ANATOMY IN THE UNIVERSITY OF PRAGUE.—Dr. Hans Chiari very unexpectedly has been appointed Extraordinary Professor of Pathological Anatomy in Prague, and Prof. Eppinger to the same chair in the University of Graz. This change in the expected order of events has created the liveliest curiosity in South German medical circles.

BILLROTH'S "RUDOLFINERHAUS."—One of Prof. Billroth's pet schemes for the education of female nurses has been carried into execution by the opening of the so-called "Rudolfinerhaus" upon the 31st of May. A number of soldiers, wounded in the existing insurrections in Bosnia and Montenegro, fill the wards. Baroness V. Villo-Secca, acts as Superintendent, Prof. Billroth, the founder of the Institution, as Director, and Dr. Gersuny as Chief Surgeon.

CELEBRATION IN HONOR OF BILLROTH'S DECLINATION OF LANGENBECK'S CHAIR IN BERLIN.—The students, privat docents, and friends of Prof. Billroth are preparing for a grand ovation to be tendered him in honor of his recent refusal to leave Vienna in order to occupy Langenbeck's vacant chair in the University of Berlin. A torchlight procession composed of medical students, accompanied by Strauss's orchestra, will conduct Prof. Billroth to the reception hall, when ceremonies befitting the occasion, will be observed.

THE NEW YORK COUNTY MEDICAL SOCIETIES AND THE NEW YORK CODE.—Delaware and Chemung Counties are the latest New York County medical societies to repudiate the new Code. The Tompkins County Medical Society is the only County society which has formally adopted it, and it stands alone in this action. Twenty-three of the sixty County societies of the State have so far condemned the new Code.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending June 24, 1882, indicate that cholera infantum and cholera morbus have greatly increased; that erysipelas, inflammation of the bowels, and intermittent fever have increased; and that scarlet fever, influenza, and pneumonia have decreased in area of prevalence.

Small-pox was reported present during the week ending June 24, and since at six places, as follows: At Detroit and Flint, at Battle Creek (one new case), in Polkton, Ottawa County (one new case), in White Cloud, Newaygo County (four cases in mild form, all having been vaccinated this spring), June 22; at Grand Rapids (three new cases June 28, thirty cases in all, including convalescents; one death June 28).

HEALTH IN PROVIDENCE, R. I.—DR. E. M. SNOW, Superintendent of Health, reports 169 deaths in Providence during the month of May, or 3 less than in the preceding month, and 26 less than in May, 1881. Of the total number, 44 deaths were of children under five years of age. Zymotic diseases caused 21 deaths, which is equal to 12.42 per cent. of the total mortality. This percentage indicates a favorable condition of the City's health. There were 29 deaths from consumption, which heads the list in point of numbers. Then follow in order: pneumonia, 19 deaths; diseases of the heart, 14; old age, 9; convulsions, 8; bronchitis, enteritis, typhoid fever, and whooping-cough, each 6; apoplexy and inflammation of the brain, each 4 deaths. There were 3 deaths from scarlet fever, and 1 each from measles and diphtheria. Small-pox caused no deaths. It is pointed out that not a single death was caused by accidents, which is an extremely rare circumstance. The mortality from pneumonia in this and the two preceding spring seasons has been above the average, and has been accounted for by the cold, damp weather in these years.

HARVARD MEDICAL SCHOOL.—Dr. David W. Cheever has been elected to the chair of the Professorship of Surgery, vacated by the resignation of Dr. Bigelow. At the Commencement held June 28th, Dr. Bigelow was elected Emeritus Professor of Surgery and received the degree of LL.D. from the University.

THE CENTRAL ALUMNI COMMITTEE OF THE UNIVERSITY OF PENNSYLVANIA, which has been formed to cooperate and advise with the trustees in the future management of the institution, was formally organized on June 28th, and will at once take an active interest in University affairs. The committee elected the Rev. James W. Robbins, D.D., its Chairman. The members drew lots for their terms of office. The representatives of the medical department will serve as follows: Drs. John H. Packard and Traill Green *for one year*,

C. H. Mastin and Wm. H. Van Buren *for two years*, S. Ashhurst and I. Minis Hays *for three years*, A. H. Smith and W. H. Klapp *for four years*, Caspar Wister and John F. Meigs *for five years*.

OPHTHALMOSCOPIC MIRROR, WITH DOUBLE FOCUS.—In order to overcome the inconvenience of using an ophthalmoscope with a mirror of a single focus for the examination of the direct and inverted image, Dr. Galezowski has devised an ophthalmoscope which has a small mirror of 8 centimetres focus inserted in the centre of the large mirror of 25 centimetres focus.—*Le Progrès Méd.*, June 3, 1882.

WHITE LEAD MANUFACTURE.—Attention has been called to the considerable increase in the number of persons engaged in the white lead manufactories at the East-end of London who became victims to plumbism in its various forms. Agitation on this subject is by no means a new phenomenon. It has frequently been ventilated in these columns; indeed, so deeply did we feel the importance of it that in 1874 our Sanitary Commissioners reported on it specially. But though attention has persistently been drawn to the matter, little has been done towards the prevention of the evil. After each agitation the manufacturers and inspectors of these lead works remain for a time on the alert, and the necessary precautions are adopted to protect the workpeople; but in course of time this vigilance is relaxed, and cases of lead-poisoning become more and more numerous till public indignation is again aroused. The process of white lead manufacture is divided into six stages: the making the lead plates, the exposure of these plates to the fumes of acetic acid, the removing the deposited carbonate of lead from the plates, levigating and grinding it, drying it, and finally packing it. The most dangerous parts of the work are the picking off and handling the crusts from the lead plates, and the packing. In the latter process the dry and brittle white lead is removed from the drying-room in baskets carried on the heads of the operatives to the packing-room, where it is broken up and placed in barrels ready for export. The dust arising from the highly dried white lead speedily covers the clothes, hands, and face, and, unless respirators are worn, is inhaled. Women and young girls are mostly engaged in this part of the business, and this is the reason why females suffer apparently more than males from the effects of lead. The same holds good with regard to the removal of the white lead from the plates, this also being performed by females. The least dangerous part of the business—the levigating and grinding whilst wet, and the drying, which is not dangerous if respirators are used—is performed by men. Although instances of extreme susceptibility to the influence of lead have come under our observation, and cases have occurred where severe lead colic has developed a few days after work had been undertaken for the first time in a white lead manufactory, still there is no doubt that if the regular precautions were strictly enforced, together with the suggestions made by our Commissioners relative to the wearing of strong leather gloves by those who are obliged actually to handle the white lead, and the necessity of wearing respirators during the packing process, the cases of plumbism occurring in the course of the year from these causes would cease to be a matter for consideration. But to attain such a result, constant supervision must be exercised over the operatives. It is not enough for the manufacturer to provide, and the inspector of factories to approve of, the general regulations and appliances, if they are not obeyed or used. An overseer ought to be appointed to each factory, whose sole duty it should be to keep a vigilant eye constantly on the operatives, and insist on the precautionary measures being carried out to their fullest extent. Neglect or disobedience should be punished by fine or dismissal; and in order to ensure the requisite degree of vigilance on the part of the overseer, his wages in great measure should depend on the immunity attained during the year. Lastly, in all cases where it can be proved that the ordinary precautions have not been rigorously enforced, and cases of plumbism have in consequence been of frequent occurrence, the manufacturer should be proceeded against, and if the case were proved, heavily fined. It is only just that those who by carelessness or greed have brought about such a mishap should be made to suffer in some shape and degree, whilst it is but fair to the ratepayers, on whom the responsibility of ultimately maintaining the broken-down victims of plumbism falls, that the chief offenders should also feel the burden.—*Lancet*, May 6, 1882.

THOUGHT-READING.—A meeting, at which Dr. Crichton Browne presided, and which was attended by a number of scientific and literary men, was held at the Marlborough Rooms on the evening of Saturday last, the 6th instant, to witness an exhibition of the phenomena of "thought-reading" by Mr. Stuart Cumberland. That gentleman, with great promptitude and precision, went through the usual performance of finding articles that had been hidden during his absence from the room, of spelling out words thought of by the subjects of his experiments, and of disclosing the date of birth of several members of his audience. At the close of his demonstrations, Monsignor Capel, Professor Ray Lankester, Dr. Hack Tuke, Dr. Simpson, and others, complimented him on the success which had attended them, and expressed their conviction that his power in "thought-reading" was superior to that of any professor of the art who had as yet appeared in London. Professor Croom Robertson said that, having been a member of a small committee which investigated the pretensions of Mr. Bishop as a thought-reader about twelve months ago, he could testify confidently that Mr. Stuart Cumberland was correct in his interpretations or readings in a larger proportion of instances than Mr. Bishop; and that there was this great difference between Mr. Bishop and Mr. Cumberland, that, while the former always left it to be understood that he was aided in his experiments by an occult force or mysterious influence which he could not himself comprehend, the latter acknowledged that he was aided in all his revelations simply by naturally quick and highly trained perceptive faculties, and that he was guided entirely in his explorations and discoveries by movements in the hands which he held or pressed to his forehead. Monsignor Capel said that "thought-reading" or "willing" is practised in hundreds of drawing-rooms in London; and the chairman expressed his belief that Mr. Cumberland is engaged in a salutary work exposing the impositions of charlatans, and the superstitions of weak-minded enthusiasts. Some spiritualists who were present did not seem inclined to accept Mr. Cumberland's account of his own extraordinary powers, but were evidently disposed to regard him as a clairvoyant, in spite of his disclaimers, and of his plain-spoken denunciations of spiritualism in all its manifestations.—*Brit. Med. Journal*, May 13, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession.*

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ORIGINAL LECTURES.

CLINICAL REMARKS ON SCARLET FEVER.

Delivered in the New York Foundling Asylum, April 22, 1882,

BY PROF. J. LEWIS SMITH, M.D.

GENTLEMEN: We call your attention to-day to one of the most important diseases of childhood, viz., scarlet fever. The following history of a case which you have seen, and which has proved fatal, has been prepared for us by the resident physicians, Drs. Kortright and Swift.

Annie K., aged two and a half years, was well, with the exception of an eczema of the scalp, until the night of April 3, when she was attacked with vomiting and diarrhœa. She was feverish and drowsy, and at 2 P. M. on the 4th, the scarlatinous efflorescence appeared upon her neck, body, and lower extremities; tongue coated; pharynx red; temperature (axillary), 103°; pulse, 160. The symptoms and aspect indicated a grave form of the malady, and the usual sustaining treatment was ordered. On April 5 the temperature was 102°; pulse, 144; tongue less coated; eruption fading; less stupor; no albumen in urine. April 6, morning temperature, 102°; pulse, 160; passed a restless night; stools thin and too frequent; has grayish patches in the throat; P. M. temperature, 103⅕°; pulse, 150. April 7, the diarrhœa continues; she has copious muco-purulent discharge from the nose; P. M. temperature, 103⅗°; pulse, 160. April 10, the temperature has continued at about 103°; the patient is very sick, with a constant foul-smelling discharge from the nostrils; breath very offensive; temperature, 103½°; pulse about 180. April 12, general appearance a little better, but the posterior surface of the fauces is completely covered by a thick pseudo-membrane; had four loose stools last night; temperature and pulse the same as at last record; a dark and offensive exudation over the fauces, and a dark, foul discharge from the nostrils; examination of the chest negative. April 14, much prostrated; temperature, 104¼°; pulse rapid and weak; respiration noisy; diminished resonance over lower two-thirds of left side of chest; ulcers upon the mouth and tongue; fauces red and ulcerated. April 17, pulse, 150; temperature, 100½°; general appearance somewhat better; the diarrhœa still persists; diphtheritic patches have appeared upon the lips; moist râles in left side of chest. The symptoms continued nearly the same until April 23, when she died. A dull percussion sound and distinct bronchial respiration were observed in the left scapular region during the last days of her life.

The post-mortem examination has been made by our curator, Dr. W. P. Northrup, who will now show you the specimens.

Autopsy.—April 22, nine hours after death: body well nourished; the tissues have a jaundiced hue; lips sore; on turning the head to one side pus runs from the left ear, and dirty muco-pus from the mouth. Brain normal; the petrous portion of the left temporal bone has been opened, and the middle ear found full of pus which communicated freely with the external ear through a perforated membrana tympani; the Eustachian tube can not be traced in the sloughy tissue, but there is apparently a passage filled with pus from the ear to the fauces; opposite the greater cornua of the hyoid bone are two deep ulcers, each having about the diameter of a ten-cent piece, and with sloughy and offensive base and sides; the left ulcer communicates by a ragged and wide sinus with a dark and sloughy cavity of about four drachms capacity; this cavity is located in the neck, under the angle of the jaw, apparently occupying the site of a disintegrated gland.

Larynx and *Trachea.*—The surface of the larynx has a dusky dirty appearance, sprinkled with little cheesy-looking spots and covered by a dirty foul-appearing liquid as if some of the ichorous pus had escaped into it from the neck; about one and a half inches below the vocal chords there is an unmistakable pseudo-membrane; below this, near the bifurcation, the trachea has a bright red color, as if a pseudo-membrane had been peeled from it, leaving the surface raw. The detachment of a pseudo-membrane from this part, if it did occur, must have been ante-mortem, for the organ has been carefully handled in making the autopsy.

Lungs.—Between the apex of the left lung and the median line, the tissues of the neck dissected upward, are found indurated, yellow, and giving an offensive odor, showing that the cervical cellulitis had extended downward further than usual. The bronchial glands have undergone hyperplasia, being enlarged and hard. The right lung is normal; about one-half of the left lower lobe is consolidated, and when cut is found to be gangrenous and offensive.

Abdominal Organs.—The liver appears somewhat enlarged; the spleen, which is apt to be enlarged and softened in severe infectious diseases seems normal; the surface of the stomach has a congested appearance, and is covered with mucus; mesenteric glands enlarged, pale, and firm; Peyer's patches swollen and pale; at lower end of ileum some pigmentation of these glands; in the large intestine the solitary glands are enlarged and a few of them pigmented, otherwise no marked change in this part of the intestine; kidneys pale; cortex thickened, and markings indistinct.

Microscopic Examination.—In the pia mater, perhaps a little increase of cells; meninges of brain otherwise normal. The trachea shows well-marked diphtheritic inflammation; it contains a film of pseudo-membrane; evidences of inflammation occur also upon the laryngeal surface, though less marked than in the trachea. The solidified portion of the lung exhibits the ordinary lesions of broncho-pneumonia with some interstitial change. In the kidneys we find parenchymatous nephritis, with some cell growth in the Malpighian bodies.

Gentlemen: Before considering the points of interest in this case, I wish to call attention to certain facts relating to scarlet fever in general, with some of which you may be familiar, but others may be new to you.

The evidence is strong that this disease does not originate *de novo*, for countries have been free from it for centuries, till it was imported by commerce. It was introduced into North America by Europeans about the year 1735, into Iceland in 1827, into Greenland in 1847, and recently into Australia. That it has appeared in certain localities without any known exposure, is attributable to the fact that the poison is so subtle and transmissible that it is conveyed to long distances in packages, books, and even in small articles of merchandise or reading matter.

Etiology.—The theory that the acute and indeed the chronic infectious diseases are caused by micro-organisms, or, as they are now designated, microbes, of a vegetable nature, commonly discarded at first, and

considered chimerical, is rapidly gaining ground in the profession. This theory is so important and is attracting so much attention that it will be well to consider the facts in reference to it so far as they apply to scarlet fever.

Unfortunately, as a bar to the successful study by experimentation of the relation of micro-organisms to the infectious maladies which afflict the human race, some of them do not occur in animals, or they occur in a changed and mitigated form, as typhoid fever, the miasmatic fevers, syphilis, and the eruptive fevers. Others, however, can be produced in their typical form in animals, as diphtheria, and others still occur chiefly in animals, and originate in them as chicken cholera and splenic fever or anthrax of the herbivori, known to the French as charbon, and transmissible with all its malignancy to man.

That minute organisms occur in the blood and tissues in infectious diseases, and in immense numbers when the type is severe or malignant, has long been known and admitted, but then the belief held by many, and which seemed very plausible, was that they did not sustain a causative relation to the diseases in which they occurred, but were the result of those diseases; that they quickly sprang into existence in consequence of the vitiated state of the system produced by disease, just as fungi appear on decaying organic substances, or, as an example in the human system, as the oidium albicans quickly appears in certain diseased conditions of the buccal surface and its secretions. Now an important step has been taken in the way of determining whether the microbes are a cause or the result of the infectious diseases which promises to lead to brilliant and decisive discoveries. It has been found possible to cultivate the microbes contained in the blood, tissues, and secretions of certain of the infectious maladies, and, after a series of cultivations, so that these organisms are far removed from the animal substances which contained them, and with which they were so intimately associated in the individual, they have been employed for inoculation, with the important result that the primary disease was reproduced.

These experiments have been made, and the original diseases reproduced after a series of cultivations with the microbe of splenic fever, with that of chicken cholera, that of murrain, recently with that of tuberculosis by Koch, of Berlin, and with the microbes of certain other maladies, so that it now seems as if the general principle will soon be established that minute vegetable organisms are the contagia of the various infectious maladies, of scarlatina as well as of the others.

Perhaps the scarlatinous microbe has already been discovered. In the *London Medical Gazette*, for January 28, 1882, is an account of its supposed discovery by Dr. Ecklund, of Stockholm, a microscopist and parasitologist of repute. He says that scarlet fever is rarely absent from the Swedish capital, and from the barracks and other dwellings on the Isle of Skeppsholm. In the urine of scarlatinous patients he has constantly found a prodigious number of discoid corpuscles, oval or round, their diameter being less than $\frac{1}{1000}$ millimetre, or from $\frac{1}{800}$ to $\frac{1}{10}$ that of the red blood-cell. They are colorless or yellowish-white, surrounded by a distinct cell-wall, and containing a well-defined nucleus of a deeper hue; sometimes one or more nucleoli may be seen. Dr. Ecklund positively asserts that he has found these same organisms in vast numbers in the soil and ground water of the Isle of Skeppsholm, in the mud of the trenches, and in the greenish mould upon the walls of the old barracks, where scarlet fever was most rife. Furthermore, he states that scarlet fever has occurred in children after drinking milk mixed with the ground water of the island, and he observed a case which followed immersion in one of the trenches of the island, and drying the clothes in a small room. In one instance, scarlet fever broke out immediately in a block on exposure of the ground water by excavations.

It is evident that the discovery of a microbe under such circumstances does not prove that it is the cause of the disease. This can only be determined by inoculation or by experiments which furnish the conditions of scientific exactness, and we must wait for further light on this interesting subject.

Whatever the specific principle of scarlet fever is, whether a micro-organism or a chemical substance, its effects are well understood from clinical observations. Without doubt it enters the system by the breath, and infects the blood. That it resides in the blood has been ascertained by inoculation with this liquid, which reproduces scarlet fever in its typical form. From the blood it enters the tissues and secretions. Hence handkerchiefs or linen containing the saliva or mucus of a patient, the epidermic scales shed abundantly in the desquamative period, and probably also the urinary and fecal evacuations contain the poison, so that they are highly infectious. Even the discharge of a scarlatinous otorrhœa is believed to be contagious for a considerable period after the primary disease has abated.

Scarlatina is not only communicated by direct exposure to the patient, but also by exposure to objects which happen to be in his room during his illness, and to which the poison becomes attached, such as books and toys.

In England observations have been made which show that scarlatina has been communicated by infected milk. The disease occurred in the family of a milkman, and the milk, before it was distributed, remained for a time in a kitchen which had been occupied by the patients. The milk was taken by twelve families, and in six of these the disease occurred almost simultaneously. At this time cases were so few that scarlatina was not considered an epidemic, and there was no exposure to the carrier, nor to members of the affected family (Taylor). In another instance, a woman and her son had scarlet fever while they were serving milk to several families, and the disease appeared in all these families except one which consisted of old people (Bell). It is known that milk absorbs volatile substances so as to be flavored by them, as is shown in the experiment of placing it in an open vessel in a box with a pine-apple, and it may in a similar manner become infected by the specific principle of scarlet fever, or it may be infected by detached particles of epidermis, which is not improbable, when one convalescing from scarlet fever is allowed to milk the cows or prepare the milk for distribution.

The scarlatinous virus surpasses that of any other eruptive fever, except small-pox, in its tenacious attachment to objects and its portability to distant localities. Hence the literature of this disease contains the records of many cases in which the poison was conveyed long distances, retaining its virulence to the full extent, and causing an outbreak of the malady in the localities to which it was carried. In New York City so frequently has scarlet fever, as well as diphtheria and measles, been contracted in the public schools from the clothing or persons of well children or from books that come from infected houses, that the Health Board now exclude from the schools all children who come from such houses, even though they live on separate floors from those occupied by the patients. In one instance that came under my notice, a washerwoman, whose child had scarlet fever, communicated the disease to an infant in the household where she was employed, by placing her shawl over the cradle in which it was lying. A physician of my acquaintance went from a scarlet fever patient to a family several

streets distant, and took one of their children upon his lap. After the usual incubative period, this child sickened with a fatal form of the malady, and the remaining children of the household were in time affected. In New York scarlet fever has seemed to me to be not infrequently communicated through school-books, which, profusely illustrated by pictures, and rendered attractive to the young, are often allowed to lie upon the bed of the scarlatinous patient, and be handled by him during convalescence, or even during the course of the disease if it be mild.

The young librarian of a circulating library of a sunday-school, the pupils of which came largely from the tenement houses, was occupied a considerable part of a day in covering and arranging the books. After about the usual incubative period of scarlet fever, he sickened with the disease. His two sisters were immediately removed to a rural township, three hundred miles away, and to an isolated house where no scarlatinous case had ever occurred. About one month after his recovery, and after his room had been fumigated by burning sulphur, and the bed clothes and linen had been thoroughly washed, and all articles suspected to hold the poison had been either destroyed or disinfected, the brother visited his sisters in the country. Three weeks subsequently to his arrival, one of these sisters sickened with scarlet fever, and a week later the other also. It seems that the exposure must have occurred several days after his arrival in the country, from some book or other infected article in his possession. About two months elapsed after the last case, the family had returned to the city, the infected room in the country house had been thoroughly fumigated by burning sulphur for a good part of a day; when a little girl from an inland city remained a few days in this house, and probably often entered the room where the young ladies had been sick. In a few days she also sickened with a fatal form of scarlatina. Such histories and experiences are not unfrequent; they are common during epidemics of scarlet fever. They indicate an extraordinary attachment of the scarlatinous poison to objects, and show that it is not gaseous nor readily volatilized.

(*To be continued.*)

ORIGINAL ARTICLES.

THE FUNCTION OF THE INTESTINAL JUICE.

BY CHARLES L. DANA, A.M., M.D.,

PROFESSOR OF PHYSIOLOGY IN THE WOMAN'S MEDICAL COLLEGE, OF NEW YORK; PHYSICIAN TO CLASS OF NERVOUS DISEASES, NORTHEASTERN DISPENSARY; MEMBER OF AMERICAN NEUROLOGICAL ASSOCIATION.

A SERIES of experiments has been made by me to test the digestive power of the intestinal juice.

The evidence regarding the properties of this secretion has been quite conflicting. This will best be seen by the accompanying table compiled in part by Dr. G. M. Garland,[1] and completed by myself.

My experiments were performed in the following manner: The animals were etherized; a loop of the jejunum was pulled out and ligatured in two places, from one to two feet apart. An opening was made near each ligature, and the intestine between was thoroughly washed out with pure water. Either white of egg, or fat, or starch, was then inserted, and the incisions sewed up, or else two more ligatures were used so as to exclude the openings. The abdominal wall was then sewed up, and the animals given a small dose of morphia. In four to six hours they were killed, and the contents of the isolated loops examined.

I can think of no *positive* elements of error in this method, provided it be carefully carried out. Of course, the operation is likely to affect the secretion by lessening or checking it. Consequently, if no results were obtained, it would not show that the intestinal juice is inactive. But positive results would be of value.

Experiment No. 1.—Eight-pound dog, full-grown; ligatured and washed out eighteen inches of upper part of jejunum. Dog had been fasting twenty-four hours. Injected ʒiij raw egg-albumen beaten up for most part into a foam. Dog nearly died under the operation. Gave ♏x Magendies' solution of morphia; dog recovered, but slept; killed four hours later. Two drachms of albumen only could be recovered; ligatures were tight; tested contents for peptone; no reaction.

This experiment showed nothing, except that under the above method peptone is not formed by putrefaction, nor by action of pepsin said to be found in parenchymatous juices and in nearly all tissues. As to this point, Schiff and Quincke state that glycerin-extracts of intestinal mucous membrane do not digest albumen.

Experiment No. 2.—Twenty-pound dog; full-grown; fasting; operated as above. Injected ℥ss coagulated egg-albumen finely mashed in a mortar; dog recovered well and walked around. Magendies' solution, ♏iij were given; intestine opened five and a half hours later; very little secretion on the surface; considerable water had been injected with the albumen, and most of this was absorbed. Ligatures tight; could collect only ʒss to ʒj of albumen. Everything was carefully washed off and tested for peptone, with caustic potash and cupric sulphate, first boiling and filtering to remove albumen. The purplish-violet color, showing peptone, was present. It is possible that some of the albumen was lost, but certainly a considerable part was absorbed either as peptone or "precipitable products."

Experiment No. 3.—Twelve-pound dog; fasting; opened intestine as before. Injected in one loop, twelve inches long, ℥ss olei dulcis; in another loop, three feet below, ℥ss coagulated white of egg mashed. Dog recovered well; received a small amount of morphia. Five hours later opened intestine; reaction acid. In the loop where the *oil had been* placed, recovered ʒiij. Ligatures seemed tight, but some oil might have been lost in the injection. At any rate I could see no chyle in the lacteals, either with the naked eye or the microscope. The acid reaction may have been due to the development of fatty acids.

From the loop where *albumen had been placed*, I recovered about ʒij. This, on being tested as above, showed a strong *peptone reaction.*

Experiment No. 4.—Fifty-pound dog; operated as before. Twenty-five centimetres (ʒvj) of olei dulcis inserted in a loop of jejunum one foot long; dog recovered well. Six hours later, killed, and

[1] Physiological Laboratory, Harvard Medical College, Boston. Collected papers, 1873–1877, p. 11, Intestinal Digestion.

loop examined. Nearly all the oil was recovered; reaction of intestinal wall acid; no emulsion seen; lacteals not injected; examination of villi under microscope showed that no fat whatever had been taken up by the epithelium.

Experiment No. 5.—Condemned horse; chloroformed. Opened small intestine thirty feet from ileo-cæcal valve; ligatured one and a half feet; washed out, and inserted ℥vj melted lard. Reaction of intestine was alkaline; intestine was nearly empty; horse had not been fed for six hours. Also ligatured three feet of intestine, eight feet nearer stomach; reaction here was alkaline; washed and inserted ℥xij hydrated starch; animal recovered well. Was given morphia q. s.; six hours later killed. *Recovered* ℥v–℥ij *of lard*, as near as could be estimated, but some might have been lost. Lacteals could not be seen to be injected either with naked eye or microscope; no emulsion seen; reactions neutral.

From the loop where starch had been placed only ℥xj could be recovered. Tested for glucose; it gave a very decided reaction. Quantitative analysis showed that there was a little less than one drachm of glucose in the eleven ounces.

The results of the above experiments are summarized in the table. They indicate that the intestinal juice digests albuminous matter, and turns hydrated starch into sugar. This view agrees with the results of the majority of recent experimenters. The evidence regarding the action of the juice on fats is negative, but most experiments show that it has no action, and mine, if anything, confirm that view.

ACTION OF INTESTINAL JUICE ON

	ALBUMINOIDS.	STARCH.	FATS.	CANE SUGAR.	GRAPE SUGAR.
BUSCH. Intestinal fistula in a woman, high up.	Protein bodies are dissolved with the appearance of putrescence and the odor of ammonia.	Acts more energetically upon starch than upon protein bodies.	Unaffected; not absorbed unless mixed with bile.	Unaffected.	
THIRY. Artificial fistula.	Fibrin is crumbled in the normal secretion; this does not occur if the juice be neutralized or acidified. Coagulated white of egg and red muscle are unaffected.	Starch is not converted into sugar.	Unaffected.	No change after hours of digestion.	Intestinal juice has no fermentative influence.
LEUBE.	Fibrin is crumbled; other albuminoids are unchanged.	Unaffected.		Cane sugar is changed to grape sugar.	Lactic and butyric fermentation occurs as the result of presence of vibriones.
QUINCKE. By glycerine extract.	Fibrin is dissolved occasionally; raw or cooked flesh and coagulated white of egg are unaffected.	Starch is changed to sugar after a long time.	Unaffected.		Converts sugar into lactic acid after a long time (12 to 24 hours).
SCHIFF. By glycerine extract.	Albumen, fresh casein, cooked or fresh muscle are dissolved in the secretion of the duodenum.	Action on starch almost as energetic as that of pancreatic juice.	Oils are emulsified.		
WITTICH.	Fibrin is not digested.	Energetic diastatic action in one instance.			
PASCHUTIN.	Fibrin and other albuminoids are unaffected by water infusions. Action of normal secretion is especially doubtful on fibrin.	Starch is converted into sugar.	Fats are imperfectly emulsified.	Cane sugar is changed into grape sugar by a ferment found only in the small intestines.	Acid fermentation occurs after a few hours.
BERNARD.	Fibrin is the only albuminoid substance attacked.	Acts very feebly on starch.		Chief function of secretion of small intestine is to digest cane sugar; secretion of large intestine is impotent.	
GARLAND. Thiry's method.	Fibrin is crumbled and converted into peptones, whether the secretion be alkaline or acid. Digestion of coagulated white of egg is doubtful. Fibrin is digested by a 0.2 per cent. HCl solution.	Starch is changed into sugar.			
MASLOFF.[1] By Thiry's method, and by infusion of mucous membrane of dogs and pigs.	*Raw* fibrin in *acid* fluid was dissolved. Raw and cooked meat and coagulated albumen were not affected.	Starch changed to sugar in alkaline fluid reaction; less rapidly in neutral or acid fluid.			
EWALD.[2] Fistula in man.	Turned albumens to peptones.	Starch to sugar.	Fats emulsified.		
COLIN. Thiry's method in a horse.		Starch to sugar.	Fats emulsified.		
DEMANT.[3] Intestinal fistula low down, in man.	No action.	Starch to grape sugar.	Fats with fatty acids emulsified; neutral fats not affected.	Cane sugar to grape sugar.	
BROWN and HERON.[4] By extracts of the mucous membrane, and other methods.	Not tried.	Starch to grape sugar, slightly.	Not tried.		Maltose to grape sugar actively.
DANA. Isolating intestine in dogs and horse.	Albumen turned to peptone.	Starch to grape sugar.	?		

[1] Masloff, A., Zur Dünndarmverdauung; Untersuch. aus dem phys. Inst. zu Heidelberg, ii. 3, p. 290, 1878.
[2] Ewald, C. A., Ueber das Verhalten des Fistelsekret., etc. Virchow's Archiv, lxxv. 3, p. 409, 1879.
[3] Demant, B., Ueber die Wirkungen des menschlichen Darmsafts. Virchow's Archiv, lxxv. 3, p. 490.
[4] Brown, H. T., and Heron, J., Am. Chem. Pharm., 204, 228. Proc. Royal Soc. London, 30, 393. They say: The pancreatic diastase turns starch into dextrin twenty per cent., and maltose eighty per cent. The intestinal juice turns these latter into glucose.

We may be asked to explain, if the intestinal juice is inert, how it is that when the pancreatic duct is tied, or when the pancreas is diseased, there is not always a fatty diarrhœa, or much fat in the feces. Bernard, Langendorff,[1] Cash,[2] and others, have shown what medical observation confirms, that such fatty stools do not always occur.

To this it may be said, that in warm alkaline fluids neutral fats may develop *acids and become emulsified.* And Cash[2] has also shown that the gastric juice helps, or can help, develop fatty acids. The same observer asserts that fats may be taken up before emulsification, and that this process takes place, or can take place, within the villi. At any rate, we can understand the possibility of a limited absorption of fat without assuming a specific action of the intestinal juice.

In conclusion, then, it seems very well established that the intestinal juice in some animals supplements the action of pepsin and trypsin on proteids, and turns hydrated starch to sugar. Its *rôle* is probably not a large one as regards digestion, but it may in some way assist absorption; for the intestine in flesh-eaters is pre-eminently an absorptive organ.[3]

Intestinal dyspepsia is, I believe, almost always due either to the stomach's throwing insufficiently digested food into the intestines, or to atony of the muscular walls and defective absorption. The trouble as regards the intestine is, in my opinion, more with muscle and absorption, than with secretion. The stomach may be at the bottom of the disturbance all the time, unloading itself with indecent haste, or with its work half done.

A CONTRIBUTION TO CEREBRAL LOCALIZATION.

BY H. J. BERKLEY, M.D.,
OF BALTIMORE.

THE subject of the present paper was Mr. J. H., of Baltimore, æt. seventy-three, who for many years had suffered from cardiac trouble, both mitral and aortic. It was only about a week before his death that he first came under my care; I found him extremely ill from the defective circulation, and at any moment likely to die.

On looking into the face of the patient, I noticed a peculiar twitching of the left angle of the mouth, localized as far as I could perceive in the zygomatic muscles. No other portion of the face participated in the mono-spasm, and with the exception of a slightly blank look on this side (of the face), there was nothing worthy of remark.

I now inquired of his friends how and when this twitching had commenced, and learnt that it had begun suddenly some thirty months previous, and was unaccompanied, at that time, by either unconsciousness or pain; and that it had since continued regularly, neither increasing nor diminishing from the period of its commencement.

Many years before he had become blind in the right eye, but the vision of the left was nearly normal, and there was no ptosis on either side.

The tongue was put forth perfectly straight, neither deviating to right or left, the movements of the organ were free, and unaccompanied by any incoördinated motion, and his voice was clear and distinct.

There was absolutely no paralysis of any of the extremities, neither inferior nor superior, and up to a short time before his death he was accustomed, daily, to take considerable exercise.

His mental condition was what one would expect to find in an old man in his dotage, unaccompanied, as far as I am able to learn, by any special peculiarity. Death occurred suddenly.

Autopsy twenty-four hours after death.—The thoracic viscera were first examined. The heart and great vessels were greatly diseased. The aortic valves were covered with calcareous plates, and were insufficient; the auriculo-ventricular orifice of the left side was completely surrounded by a bony ring; the mitral valves were thickened, opaque, and, like the aortic, covered with plates of calcareous formation and insufficient. The aorta for some distance beyond the valves was strewn with atheromatous patches. The right side of the heart did not participate in the disease.

The brain: The skull was well formed, the bones of moderate thickness, and were not adherent to the membranes. The dura mater was everywhere of natural appearance. The pia mater was thin, transparent, easily detached from the cortex, was nowhere adherent to the convolutions, not even over the spot of degeneration, and showed no signs of pre-existing inflammation.

The cerebral arteries, anterior and posterior, were strewn with atheromatous patches, even in the smallest arteries visible to the eye, they could easily be seen; but no embolism or rupture could be found, though carefully looked for.

The pia mater was now removed, and the cortex examined. The convolutions were very intricate, well formed; the two hemispheres were quite asymmetrical; in fact, the previous history of the patient showed that he had been a man of very considerable intellectual powers, especially possessing a considerable amount of elocutionary talent. The sulci penetrated deeply between the convolutions.

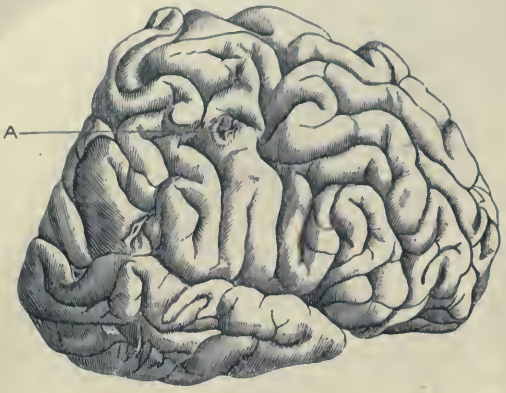
On the ascending frontal convolution of the right side, one and a half inches above the margin of the Sylvian fissure, in a location corresponding to the seventh centre of Ferrier, a nodule of calcareous degeneration was found of nearly circular shape, three-sixteenths of an inch from side to side, and of a corresponding diameter from above downwards.

The depth was very slight, certainly not greater than the one-half of the thickness of the cortical gray matter. It looked as if many months before there had been an occlusion, probably from an embolism, of one of the smaller surface arteries of the gray matter, which had since undergone calcareous degeneration, a result which not unfrequently occurs in like lesions. The left hemisphere, the cerebellum, the cord, medulla, and pons were healthy.

[1] Langendorff, O. Archiv f. Anat. and Phys., 1879, pp.
[2] Cash, M. Archiv für Anat. and Phys., 1880, p. 323.
[3] For discussion of this, see I. Munk's Phys. des Menschen u. der Säugethiere, p. 169.

The case seems to me to be one of the greatest interest in localization of the centres of the face; first, because the foyer is of minimum size, and absolutely unaccompanied by other lesions; and, secondly, because of the few known uncomplicated lesions of this portion of the motor zone of the brain.

Neither Ferrier, Charcot, nor De Boyer describe in their works an unmixed lesion of this portion of the motor zone, and, as far as I am able to discover, it is unique.



A, the lesion.

Ferrier remarks (Localization oi Cerebral Diseases), that "the cases on record in which paralysis limited to the face, unaccompanied by aphasia, or paralysis of the hand or arm, has been found in connection with cortical disease, have been due to lesions of the right hemisphere; but in none can the lesion be said to be circumscribed." The three following examples, cited by Ferrier and De Boyer, resemble more nearly the present case than any others.

A case reported by Gowers (Path. Transactions, 1876). It was "a case of left hemiplegia, which gradually recovered, with the exception of a very marked paralysis of the inferior facial muscles. The lesion was a hemorrhagic extravasation in and beneath the upper half of the præ-central sulcus, which had pressed upon the convolutions bounding it, viz., the posterior extremity of the middle and superior frontal, and corresponding part of the ascending frontal of the right hemisphere."

The case related by Hitzig "was of a French soldier, who, two months after a bullet-wound on the right side of the head, began to be affected with clonic spasms in the left side of the face. These were followed by transient but complete paralysis of the left side of the face and left side of the tongue. Clonic spasms occurred also in the left hand.

"After death an abscess was found corresponding to the seat of the injury, situated in the ascending frontal convolution, between the præ-central fissure and the fissure of Rolando.

"It should, however, be noted that there were indications of meningeal inflammation over the whole surface of the right hemisphere, though there was no cerebral softening except in the neighborhood of the abscess."

The third case is related by Hervey (*Bull. Soc. Anat.*, 1874). "This was a case of right facial paralysis with aphasia. A focus of softening was found anterior to the fissure of Rolando, at the junction of the third frontal with the ascending frontal convolution of the left hemisphere."

All are complicated, however, by more or less surrounding inflammation, and in the one that corresponds best with our present case, that of Gowers, the paralysis was caused by pressure upon, not disease in, the ascending frontal convolution.

The exceedingly small extent of the degeneration calls attention to the fact that it was an irritative, not a destructive, lesion, and also that the amount of space involved could not possibly cover the entire surface which supplied motor impulses to the muscles that participated in the spasm, otherwise we would have had paralysis, not mono-spasm, of the zygomatici.

In concluding, I must again repeat and recall attention to the main point, viz., that the diseased portion of the cortex was entirely unaccompanied by any other focus of degeneration, either on or within the cerebral hemispheres.

MEDICAL PROGRESS.

RESECTION OF THE STOMACH.—A. W. C. BERNS (*Nederlandsch Tijdschr. voor Geneesk*, 1881, S. A.) reports the case of a woman aged 49 years, who had suffered since 1878 with symptoms of chronic gastric catarrh, in whom the objective signs of cancer were first detected in the beginning of 1881. When Berns first saw the patient in April of this year, the entire abdominal cavity as far as the navel was occupied by the tumor and dilated stomach, and as the symptoms of obstruction of the pylorus were increasing in severity, it was resolved to attempt the excision of the tumor. The operation was rendered very difficult by the extensive adhesions formed; the vena cava was exposed for a length of ten centimetres, and a large portion of the pancreas had to be removed. After the removal of two cancerous nodules in the lesser omentum, the pylorus was excised, a wound of twenty centimetres long (two-thirds the length of the lesser curvature) being necessary on account of the existence of isolated cancerous nodules. Billroth's method of uniting the stomach and duodenum was made use of. One hundred sutures and more than two hundred and fifty ligatures were used. The patient lived four hours and a half after the operation, death probably occurring from shock, as the autopsy showed that the stitches and ligatures were all in position, and no blood or intestinal contents had escaped into the peritoneal cavity.—*Centralb. f. d. Med. Wissen.*, May 27, 1882.

TREATMENT OF PLEURITIC EFFUSIONS BY RESPIRATORY GYMNASTICS.—DR. DESCAMPS has studied the action of respiratory gymnastics on pleuritic effusions (*Revue de Thérap.*, April 1, 1882). The conclusions of his paper, read to the Society of Medicine at Antwerp, were as follows: 1. There is, in the treatment of affections of the chest in general, and of pleuritic effusions in particular, an important factor of which but little note has been taken up to the present time, notwithstanding the facility of employing it. This factor is the act of respiration. 2. Deep and regular respiration may be opposed to the impediment to the circulation—to the congestion of the lung, in many cases in which external or internal influences tend to produce it. It may prevent or impede the attack of illness. 3.

When the air inspired is pure and wholesome, a very favorable effect is exercised in declared pulmonary affections by regulating the gaseous and nutritive changes, by maintaining the permeability of the bronchi, by favoring circulation, and removing congestion of the pulmonary tissue, without speaking of the general good effects which are produced by the more complete formation of the blood. 4. In cases of pleurisy with effusion and compression of the lung, the act of respiration, if well regulated, may act in a very favorable manner, or the absorption of the exudation, and on the unfolding and progressive return of the lung to its normal size, by opposing its atrophy. For this purpose, in producing the converse of the tendency which exists in these cases, the breathing should be carried on by the sound lung as little as possible, so as to force that which is compressed to respire and to become dilated as much as possible. This result may be attained by an habitually full and deep respiration, the body being in such a position, whether standing, sitting, or lying, that the filling of the chest may be reduced to a minimum on the healthy side and raised to a maximum on the affected side. In pleurisy, the respiratory action should be put into practice at a suitable time, and should not exclude the preliminary or concomitant use of other means which may be indicated. 5. In cases of thoracentesis, the best method of avoiding the accidents which accompany and sometimes follow this operation is to favor the unfolding and the expansion of the lung by regulated respiratory exercises before, during, and after the operation. 6. The same exercises, both preparatory and consecutive, are very useful in cases of empyema, whether spontaneous or produced by operation. The pulmonary circulation, rendered more easy and more active by more regular and complete respiration, exercises a favorable influence on the general circulation, and may thus contribute to the clearing and to the return to the normal condition of important organs which have either become hyperæmic or inflamed, such as the brain, the liver, the kidneys, the peritoneum, through the liver, and the intestines themselves.—*London Med. Record*, May 15, 1882.

The Removal of Nasal Polypi.—Dr. Morell Mackenzie discusses the various operative methods of removing nasal polypi and states that the mode of treatment he generally adopts is to remove the polypi with his punch-forceps and then to apply the electric cautery to the base of the growths. This method will generally succeed in effecting a rapid cure, but when recurrence repeatedly takes place, if the growth springs from one of the turbinated bones, he removes the portion of the bone from which the polypus originates by means of a special instrument which he has devised for the purpose. It consists of fine hollow forceps having toothed edges on one side and smooth edges on the other, whilst between the two a sharp cutting blade can be rammed down. The portion of the turbinated bone required to be removed is seized by the forceps, the smooth blade being on the outer side. The knife is then pushed home and the portion of the bone easily removed. He wishes it to be understood, however, that though he considers the removal of a portion of one of the turbinated bones perfectly harmless, he regards it as an operation rarely required.—*Arch. of Laryngology*, April, 1882.

Epidemic Cerebro-spinal Meningitis.—The seventeen cases which Jaffé relates (*Deutsches Arch. f. klin. Med.*, Bd. xxx., H. 3 and 4, 1882), and which were mostly observed by himself, are not recorded for the purpose of setting up new theories concerning cerebro-spinal meningitis, but are intended to correct many errors which exist in regard to etiology, etc. He, therefore, first gives a summary of cases of like nature and of the results of all observations. The author maintains that the meningitic virus is a specific one, and considers it a waste of time to endeavor to prove its connection with other infectious diseases. It is certain that the disease in question is a specific infectious one, which may occur sporadically as well as epidemically, and may be spread by contagious as well as by miasmatic influence. As we are not yet clear as to the nature of the virus, we must, for the present, consider the two questions, as to the origin of the virus and the etiology of the disease, as unanswered; but, as a fact, we can record that it exists, and, as probable, we may assume that it is less a miasma than a contagium. Whether it be fixed or volatile, whether "vivum" or otherwise, or if parasitic, we know not as yet. Jaffé has examined, microscopically, the blood and exudations found in the cerebro-spinal cavities, but has found no organisms of any kind. He feels himself justified, therefore, in denying that cerebro-spinal meningitis is a parasitic disease (from a modern point of view).

Prodromal symptoms were found in ten cases. Headache occurred in fourteen, vomiting in fourteen, and delirium in ten cases; of the latter, two were of a maniacal character, and had been admitted as suffering from delirium tremens. Episthotonos occurred sixteen times; hyperæsthesia, eight; anæsthesia, once only; ocular changes, ten times; aural troubles, once, in the form of purulent otitis media, with perforation of the membrana tympani. In two pneumonia, in one bronchitis, and in one gangrene of the lungs occurred. There were two cases of ulcerative endocarditis, complicated once with purulent pericarditis. Splenic swelling was observed thrice, passive albuminuria once, arthritic affections five times.

The duration was two or three days as the minimum, four months as the maximum. Ten cases ended in death, seven in recovery; the mortality being 59 per cent. The diagnosis is most difficult in the early days of the sporadic cases. We have to distinguish between the diseases idiopathic (traumatic) spinal or cerebro-spinal meningitis, tubercular meningitis, typhoid fever, intermittent fever, asthenic pneumonia, tetanus, delirium tremens, and acute mania. The etiology of the first disease is an important aid, but it must be borne in mind that wounded persons are most sensitive to the meningitic virus; it is often impossible to distinguish tubercular meningitis, as two of the reported cases show. Typhoid fever is recognized by the gastric symptoms, which soon appear, and the absence of spinal symptoms, as well as the presence of the splenic tumor; intermittent fever by the beneficial effect of quinine. The other diseases are distinguishable in their further progress.

The treatment consisted in the application of ice to the spine and administration of narcotics, calomel in large doses, lukewarm and cold baths. The author found abstraction of blood, prolonged baths, and the administration of antipyretics to be useless, the latter disturbing the digestive faculties and lowering the patients.—*London Med. Record*, May 15, 1882.

Extirpation of a Cystic Tumor in a Bleeder.—C. Thiersch, in the *Arch. f. klin. Chir.*, xxvii. p. 265, reports a case in which he undertook the extirpation of a cystic tumor situated over the zygoma of a patient with marked hemorrhagic diathesis, hoping to be able to restrain the bleeding by moderate pressure under Lister's dressing until the vessels had closed. In spite of the ligation during the operation of twelve small arteries and the closure of the wound with eight catgut sutures, a few hours afterwards, when the pressure had to be reduced on account of the pain it was causing,

numerous extravasations formed on the forehead, cheeks, eyelids, upper lip, and gums, and when the dressing was removed on the third day, the wound was found to be distended with blood, so destroying any hope of primary union. This bleeding continued up to the entire closure of the wound, and on the eighth day an artery spurted as if freshly cut. On the thirty-ninth day the patient was discharged cured, having from the eighteenth to the twenty-third day suffered from an attack of facial erysipelas, while for weeks the extravasations continued, causing a mottled appearance of the entire face and neck. The difficulty in the healing of wounds in bleeders, is, as this case shows, not only in defective formation of new vessels, but also, even under the Lister dressing, of preventing bleeding by pressure, and consequently rendering healing by first intention possible.—*Centralb. f. d. Med. Wissen.*, May 27, 1882.

THE SOURCE OF BOTHRIOCEPHALUS LATUS.—Many investigators have occupied themselves with the problem of the source of bothriocephalus latus. Knoch, twenty years ago, believed that he had solved it, and that the ovum or embryo taken into the intestinal canal of a dog developed there into a perfect tapeworm, without passing through an intermediate stage in any other habitat. But this conclusion was not confirmed by others, and, in the opinion of Leuckart, Kuchenmeister, and others, is certainly erroneous. Other statements on the subject amount merely to more or less probable suspicions founded on what has been ascertained of the origin of other tapeworms. Our knowledge of the subject has, however, been materially advanced by an investigation by Dr. Braun, of Dorpat, a locality where the worm is compartively frequent. He has published an account of his researches in a recent number of Virchow's *Archiv*. He started with the assumption, justified by all known facts regarding the history of other tapeworms, that, like them, the bothriocephalus must have an intermediate stage, and therefore presumably a change of host. Recorded facts show that all animals in the intestines of which bothriocephalus has been found, are fish eaters, either entirely or partially, and, further, that an organism has been detected in fishes which has been regarded as the early form of bothriocephalus. An investigation of various fish brought to the market at Dorpat showed that some had, encapsuled in the intestine, the early asexual forms of bothriocephalus. This, however, was not sufficient, since the intestines of fishes are not eaten by man, and the presence of the organisms in them would not account for the occasional endemic prevalence of the disease. Braun therefore examined the parts of the fish which are eaten, especially the muscles, the sexual glands, and the liver, and he found in the pike (*Esox lucius*) numerous young bothriocephali not only in the above parts, but also in the spleen and other viscera. They were found in almost every pike brought to the market. Hence, an infection of man can readily occur, and in that district the pike is common, and is extensively eaten by the lower classes. The scolices were also found abundantly in the eel, which is also a favorite article of food. It remained to be proved, however, that the muscle scolex of the pike or eel was capable of giving rise to the adult form. A number of experiments were therefore undertaken with the cat and dog, which were fed with the infected muscle. In no case were either ova or segments of bothriocephalus found in the feces before the special diet was commenced, only the ordinary tæniæ of these animals. When, however, the organisms from the pike were added to a strict diet, including, as the only drink, distilled water, segments of bothriocephalus were found in the fæces, and in one case, in the cat, the sexually ripe form of bothriocephalus was obtained, corresponding perfectly with that of man. The practical consequences of this conclusion are sufficiently obvious.—*Lancet*, June 3, 1882.

COMMUNICATION OF THE LUNG WITH THE AORTA.—DR. BOHAY presented to the Medical Society of Buda-Pesth, the specimens obtained from a case of phthisis pulmonalis, in which a cavity in the apex of the left lung communicated by an opening four millimetres in diameter with the left side of the arch of the aorta, which was as thin as paper and drawn over to the left side by adhesions to the lung. The aneurism was not diagnosticated during life. Such cases are extremely rare, Rokitansky having only seen one similar one.—*Journ. de Méd. de Paris*, June 3, 1882.

PILOCARPINE IN DIPHTHERIA.—We described, a few months ago, the results obtained by a number of Continental observers on the treatment of diphtheria by the method recommended in such eulogistic terms by Guttman: the administration of pilocarpine with the view of effecting the detachment of the false membranes by the secretions produced. Those results were to some extent contradictory, although the balance of opinion was strongly against the method, as rarely useful and often fraught with no small amount of danger in many cases. This conclusion is strongly confirmed by the subsequent experience of several physicians who have used pilocarpine. The results they have obtained have been lately summarized by Dr. Picot in the *Revue Médicale de la Suisse Romande*. Demme, for instance, in nineteen cases thus treated, failed to observe in most of them any arrest of the spread of the false membranes, and in nearly half the cases tracheotomy had to be perfomed. In two or three cases of moderate degree of severity pilocarpine seemed to be of some service, but its use was not exempt from difficulty, especially on account of the various tolerance exhibited by children, so that doses which in some produced alarming collapse were well borne by others. Of three cases reported by Payrandeau, two were children, and both died in a state of collapse. No favorable result was obtained by Faludi, of Pesth, and an extensive trial of the method by Archambault more than confirms the doubtful opinion which he previously had expressed. He treated eighteen cases by this method, and only three recovered, although eight of the cases are said to have been of a benign form. No larger proportion recovered, however, of those which were treated by other methods, but the detailed observation of his cases has led Archambault to the conclusion that the effect of pilocarpine is positively injurious. The abundant diaphoresis exposes the patient to risk of catarrh, and the abundant mucous secretion produced, in itself involves a danger to respiration. Schmid, Laschkewitz, and Charkow, have met with only unfavorable results. Of ten cases treated in this way by the latter, all died. The experience of several other physicians—Saint-Denis, Lewin, Warschauer, Dentan, Maunier, and Ferrière—has been scarcely less unfavorable, although not equalling the disastrous experience of Bernier de Bournonville, who failed to save a single one of seventeen patients thus treated. A very small minority of those who have written on the subject consider the treatment of positive utility. Most of these seem to have drawn their conclusions from mild cases, and it may be noted that one of them —Duchini—lost four out of five cases thus treated. Almost all agree that the influence of the drug is confined to the detachment of the false membranes; that it has no influence on the poison itself is shown by the fact that it is powerless to prevent relapses.—*Lancet*, June 3, 1882.

TREATMENT OF PHTHISIS BY INHALATION.—DR. STRETCH DOWSE read a paper on this subject before the Northern District Branch of the British Medical Association. He prefaced his paper by referring to the recent very valuable discovery of Dr. Koch, concerning the tubercle-bacillus; and he thought that the inflammatory theory of tubercle, and Dr. Sanderson's recent lectures at the College of Physicians on Inflammation, tended to support rather than to detract from the results of Dr. Koch's original investigations. Dr. Dowse, through the kindness of Dr. Blake, was enabled to show to the members present many forms of respirators, including one of Dr. Blake's invention, which were useful and adapted for the purposes of inhalation. Dr. Dowse said that it was more than ten years ago when he first began to treat pulmonary consumption by inhalation; and he regreted that, until recently, he had not carried out his experiments with that care which so important a subject demanded. During the months of September, October, November, and December, 1881, he had treated his patients, in the North London Hospital, for consumption, by several forms of inhalation; and he almost invariably had good results. He thought, however, that the process of inhalation was far from perfect, and he hoped for better results in the future. Short histories and notes of several cases were brought forward, as evidence in favor of this mode of treatment. He spoke particularly of the value of acetic ether as an inhalant; in fact, he went so far as to say this drug was, in his opinion, capable of disolving nascent tubercle. The mixture which he generally used had the following composition: ℞. Thymol. ʒiij; ætheris acetici ʒiij; ætheris sulph. ʒi; creasoti ʒiij; acidi carbolici ♏xv; terebinth. ad ʒiv. Ten drops to be used at a time for an inhalation. He laid great stress upon continuous inhalation: for instance, two hours morning, afternoon, and evening, as well as during the whole night.—*Brit. Med. Journ.*, May 27, 1882.

DISTINCTION BETWEEN CADAVERIC AND PLANT ALKALOIDS.—H. BECKURTS (*Arch. der Pharm.*, Feb. 1882) has made a number of experiments as to the relations between these alkaloids. Since the knowledge of the fact that in dead bodies, through the influence of putrefaction, alkalodial bodies—septicines, or the ptomaines of Selmi, may be formed, which, in their chemical reactions, show a behavior quite analogous to that of the plant bases, the attempt has been repeatedly made to discover characteristic points of distinction between them.

General reactions, by means of which it may be readily and certainly decided whether a plant alkaloid or one of so-called ptomaines is in question, have remained as yet unknown. The discovery of such must also remain for the present at least problematical, as long as the knowledge of the chemical nature of the ptomaines remains so deficient, and when under the latter designation an entire group of compounds is comprehended, the members of which, apparently, formed under the same conditions, exert a varying physiological action, and probably stand also in very loose chemical connection. Our interest, therefore, must be attracted the more to a recently published essay of Brouradel and Boutmy (*Comptes Rendus*, 1881, p. 92, 1056), wherein they maintain to have found in potassium ferricyanide a reagent which will distinguish these two classes of bodies. Plant alkaloids, according to the statements of these chemists, do not change this salt, whereas the ptomaines reduce the same at once to potassium ferrocyanide, which may be recognized by a precipitate of Prussian-blue on the addition of a ferric salt. An exception to the rule is morphia and veratria, of which the former has a strong reducing action, the latter to a lesser extent.

The importance of this statement for forensic chemistry induced the author to repeat the related experiments, but only with regard to the behavior of the plant alkaloids towards potassium ferricyanide, as the reducing action of the ptomaines has been emphasized by all investigators as a characteristic property, and therefore, does not require a repeated confirmation by experiments.

The experiments were so conducted that for each a centigramme of the alkaloid was dissolved in five cubic centimetres of water with the aid of dilute sulphuric acid, then two drops of a ten per cent. solution of potassium ferricyanide added, and subsequently one drop of a very dilute neutral ferric chloride solution.

Morphia and colchicine reduced the potassium ferricyanide very strongly; the mixture, upon the addition of ferric chloride, became immediately dark-blue. A less strong, but still plainly perceptible reduction, recognizable by the formation of a greenish-blue liquid after the addition of ferric chloride, and from which immediately, or after a short time, flocks of Prussian-blue were precipitated, was effected by aconitine (English and German), brucine, conine, digitaline, nicotine, strychnia, papaverine, narceine, codeine, and, in accordance with the statements of the named chemists, veratrine. To these may also be added picrotoxin (in natural solution), while atropia produced no reduction.

If it be accepted that the ptomaines which, according to a recent investigation of A. Casali (*Gazz. Chim.*, 1881, p. 314), are considered as amido acids, possess a stronger property of reduction than most alkaloids, it is seen from the communicated experiments that a distinguishing reaction between plant poisons and ptomaines with regard to their behavior towards potassium ferricyanide cannot be observed.

The author finally mentions that he is still occupied with the examination of the crystalline or amorphous precipitates which are produced by potassium ferricyanide and ferrocyanide with the alkaloids mentioned.—*Amer. Journal of Pharm.*, May, 1882.

TREATMENT OF TYPHOID FEVER WITH QUINIA AND SALICYLIC ACID.—At the meeting of the Société Médicale des Hôpitaux, held May 26, M. LEREBOULLET read, in the name of M. SOREL, a paper on this subject. This memoir, suggested by the researches of M. Hallopeau, is based upon an analysis of ninety-seven cases. Instead of first employing calomel, as advocated by M. Hallopeau, M. Sorel gives from 50 centigrammes to 1.8 gramme of sulphate of quinia in the morning, and from 2 to 4 grammes of salicylate of soda during the day, its use during the night being suspended if the antipyretic effects appears to have been sufficiently marked. The simultaneous use of these two drugs can be long continued with evil effects, without producing ringing in the ears, delirium, marked dyspnœa, epistaxis, or intestinal hemorrhage; abundant sweats and eruptions of sudamina are the most frequent effects, and can, without doubt, be attributed to the salicylate of soda. This treatment does not interfere with the simultaneous treatment of complications, should they arise, and tends to render the temperature curve horizontal, though it does not shorten the disease or prevent complications.—*Gaz. Hebdom.*, June 2, 1882.

TREATMENT OF HEMORRHOIDS BY FORCIBLE DILATATION OF THE ANUS.—Having referred to the dangers accompanying the usual methods of radical treatment of hemorrhoids, *i. e.*, excision, ligature, and cauterization, PROF. SUBBOTIN (*Mejdunarodnaia Clinica*, No. 1, 1882) advocates a fourth method, which is alleged to be entirely free from such dangers as subsequent pyæmia, stricture of the anus, secondary hemorrhage, general

peritonitis, etc. This operation is forcible dilatation of the anus and lower part of the rectum, recommended, about thirty years ago, by Maissonneuve, and, after many years of oblivion, in 1876-77, again introduced into practice by Verneuil and Fontan, and later by Guyon, Trélat, and other French surgeons. The author, from his own experience, draws attention to the simplicity, safety, rapidity of curative action, and efficiency of this method, which is described by him as follows. On the day before the operation, the bowels are thoroughly opened by a purgative; and, immediately before the dilatation, the rectum is washed out by an enema. The patient being brought under the influence of chloroform, and placed on his left side, with his thighs fully flexed, the operator stands behind the patient and introduces a bivalved Recamier's anal speculum. Then he gradually and cautiously opens the speculum (introduced down to its handle); and, when all the rugæ of the anorectal mucous membrane have been effaced by stretching, he leaves the instrument opened to its widest extent *in sitû* for two or three minutes, and then removes it. With this action the treatment comes to an end, no after-treatment being required. The operation lasts about six to eight minutes. The immediate effects of the dilatation consist: 1, in a paretic state of both rectal sphincters, which exists three or four days, and then is followed by normal contraction of the parts; and 2, in complete relaxation or disappearance of the hemorrhoid varices. Small piles usually disappear at once, never to return; large ones remain visible for some time after the operation as soft, lax, and empty capsules. These are gradually diminished, and, as a rule, finally disappear, or remain in the shape of simple polypi, causing no discomfort to the patient. According to the author, the action of dilatation in the treatment of hemorrhoids is twofold. First, by relaxing the sphincters, it removes the cause of stagnation of blood in the beginnings of the hemorrhoid veins; and, secondly, it expels the contents of the varices and compresses their walls in such a way as to cause their adhesion and obliteration of the cavity. Prof. Subbotin points out only two contra-indications to forcible dilatation. They are, suppuration and incipient gangrene of the piles. In cases of highly tense and irreducible hemorrhoids, he advises that the operation should be done in two stages: first, dilating by means of the fingers alone, and, some days later, proceeding with instrumental dilatation.—*London Med. Record*, May 15, 1882.

INTER-CRICO-THYROID LARYNGOTOMY.—At the meeting of the *Société de Chirurgie* held April 26, 1882, M. NICAISE read a report on the work of M. Richelot on this subject, and a second report on M. Krishaber's work with the same title.

M. CHAUVEL recognized the difficulties alluded to by the reporter, and cited a recent case where it had been almost impossible to insert an ordinary tracheal canula.

M. DÉSPRES mentioned that the first suggestion of the advantage of incising the cricoid was due to Boyer, but since then the incision had been nearly entirely abandoned, except in exceptional cases, where a modified incision was employed. Nélaton proposed the resection of a part of the cricoid cartilage, and M. Déspres published in 1861, in the *Gazette de Hôpitaux*, an account of a case so operated on by Nélaton for œdema of the glottis occurring in pregnancy. M. Déspres had himself, also, performed inter-crico-thyroid laryngotomy for a case of polypus of the larynx, and he recognized the advantages of the operation as facilitating subsequent manipulations in the larynx, or for the removal of foreign bodies, but thought it was unsuitable where it was desired to allow a canula to remain; and he cited a case where the presence of the canula rendered deglutition so painful that the cricoid had to be incised. He is therefore resolutely opposed to the operation.

M. VERNEUIL, on the other hand, is a warm advocate of this method; he believes it to be easy of performance, exempt from the inconveniences and dangers of tracheotomy, and is often the only operation possible; and he has also found that ordinarily the permanent use of the canula is not objected to by the patients. He performed the operation in a case of epithelioma of the larynx, and the patient wore the tube for twelve months without any inconvenience; he also had a similar result in a case of epithelioma of the pharynx, which necessitated the opening of the larynx from the suffocative attacks following the great glandular enlargement. This patient, who is still alive, suffers no annoyance from the presence of the tube, and can even speak without closing it. He had employed the thermo-cautery in these two cases, and not a drop of blood had been lost. In the second case the neck was extremely short, and it was impossible to extend the head without causing suffocation, so rendering the ordinary operation of tracheotomy inapplicable. He thought, however, it should be remembered that the crico-thyroid membrane might be exceptionally elastic, and so prevent the entrance of the canula.

M. FARABEUF had performed this operation fifty times on the body of adults and old people, and had found that the operation, as regards difficulty, was not comparable with tracheotomy. MM. MARC-SÉE, LANNELONGUE, and POZZI also spoke in favor of the operation.—*Le Progrès Médicale*, April 29, 1882.

ABLATION OF FUNDUS UTERI BY ABDOMINAL SECTION.—At the meeting of the Surgical Society of Ireland, held April 14, DR. ATTHILL read a paper on ablation of the uterus, in which, after contrasting the various operations in use for the partial or complete removal of the uterus, and the results obtained by different operators in each method, he gave the details of a case in which he had recently performed a modification of Porro's operation. The patient, a woman aged 58, was first seen by Dr. Atthill in October, 1881. The os and cervix uteri were healthy; but the fundus was enlarged, the sound passing two inches and a half. A clot of blood was daily expelled from the uterus when the pain came on. Not being certain of the condition of the fundus uteri, Dr. Atthill dilated the os and cervix, but found no tumor, as he had partly expected from her previous history. He, therefore, concluded that the disease was malignant, and advised removal of the uterus above its insertion into the vagina. The operation was performed on January 16, 1882. An incision commencing one inch above the umbilicus served to open the pelvic cavity; the fundus uteri was seized, whilst a ligature was passed round the suspensory ligament at either side. The ovaries were found atrophied, but were not removed. A ligature was passed round the neck of the uterus; the fundus cut off; and the raw surface of the stump was touched with the actual cautery, and allowed to go back into the pelvis. The wound in the abdomen was then sewn up. The operation lasted an hour and a half. At 7 P.M. on the day of operation, the temperature was 99°, and the pulse 108; and within twenty-four hours the woman died. The walls of the fundus uteri were thickened and epitheliomatous; and the stump, which had been thrown back into the pelvis, was not free from epithelioma. This was the first case of epithelioma of the cervix uteri which he had seen. It was, therefore a rare affection; so that he was not certain of the exact nature of the case up to the end of the operation. He regarded the operation by abdominal section as a safer one than that through the vagina, though the latter was usually done for epithelioma.—*Brit. Med. Journ.* May 27, 1882.

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RECENT CONTRIBUTIONS TO THE THERAPEUTICS OF MALARIAL DISEASES.

UNTIL we get some exact information regarding the nature of that mysterious miasm—malaria—our therapeutical resources will be largely empirical. Guided partly by more exact notions derived from the study of its physiological actions, and partly by clinical experience in its use, we now employ quinia more accurately and efficiently than was possible a few years ago. Not to speak of such well-worn topics as the antipyretic action, and the administration of large doses, we will ask the attention of our readers to the subcutaneous injection of quinia, which, although not a frequent mode of applying the remedy, is sometimes of immense utility, as in pernicious intermittent and remittent fever, and in obstinate cases of the ordinary forms. Exceeding difficulty has been encountered in the preparation of a suitable solution. Quinia, in an undissolved state, and in acid solutions, has caused great mischief. The hydrobromate, originally proposed by Gubler, possesses several distinct advantages: it is comparatively soluble in water, produces very little local irritation, and is effective. It is soluble in the proportion of 48 grains to ʒiv, so that 20 minims contain 4 grains. A new compound salt of quinia and urea has been introduced recently. This proves to be more soluble than any other preparation, and is less irritating, no after-redness and swelling occurring. It seems to be soluble in the proportion of 50 per cent., that is, a saturated solution in water will contain one-half by weight of the salt. The quantity of urea—somewhat less than one-tenth—which is present in the compound salt is not objectionable. The name by which it is known is sufficiently complicated—*quinia bimuriatica carbamidata. Quiniæ et ureæ bimurias* expresses the composition, and might, therefore, be substituted for the more difficult and confusing original title.

Numerous remedies have been brought forward as substitutes for quinia, and, indeed, so closely are the chemists approximating to it in composition that an artificial quinia, produced by synthesis, may be expected in a short time. Resorcin, hydroquinone, pyrocatechin, and chinoline are recent products of the chemist's art. Of these, chinoline has excited the deepest interest, because itself, a derivative of quinia, approaches nearly to it in composition. The confident expectations at first entertained that in this we had a remedy of value nearly equal to quinia, are not supported by a larger clinical experience. It has proved very irritant to the stomach, is depressing, and greatly inferior to quinia in antiperiodic power. All of this group—the dihydroxol-benzol group—possess more or less of the antiseptic, antipyretic, and antiperiodic power, but they are far less effective than the cinchona alkaloids.

Carbolic acid possesses some valuable properties as a remedy in malarious diseases. The highly irritable stomach of acute malarial poisoning is usually quickly relieved by small and frequently repeated doses of carbolic acid. Fifteen years ago, Dr. Tessier, of the Mauritius, announced that intermittents are rapidly cured by the subcutaneous injection of three-quarters of a grain of carbolic acid, dissolved in twenty minims of water. This observation attracted but little attention; yet it is true, although there may be limitations. No exact observations, on which a rule of practice may be formulated, have yet been made; but the fact may be stated that simple intermittents, without lesions of the spleen and liver, are often cured by the subcutaneous injection of carbolic acid. These injections give but little pain at the moment of introduction of the needle, and this pain is followed by anæsthesia. To obtain sufficient curative results, they should be inserted about three times a day during the intervals between the paroxysms.

Recently the alkaloid *pilocarpine* has been used to abort the ague. If administered at the moment when the first chilliness, or other disturbance, indicates the onset of the paroxysm, the sweating stage is at once inaugurated, thus preventing the chill and fever. The quantity of the nitrate or muriate of pilocarpine necessary to effect this, will range from one-eighth to one-quarter of a grain, subcutaneously, for an adult. The vaso-motor and cardiac depression which succeeds to the preliminary stimulation must not be forgotten in an estimate of the probable results. Although by this practice an

impending intermittent may be aborted, it does not follow that subsequent attacks will be prevented. In some instances, it appears, an intermittent has been arrested by a single administration of pilocarpine. Thus far there has been no published experience on the use of pilocarpine in pernicious malarial fever, in which, indeed, it promises a high degree of utility. *Apropos* of this formidable condition, we should not fail to mention the very great utility of *amyl nitrite*, subcutaneously, in the algid stage of pernicious fever. From two to five minims may be injected, and repeated at intervals determined by the cessation of the effects. This practice serves a double purpose: the remedy substitutes warmth of the surface and an active circulation for the coldness and depression, and gives time for obtaining the full effects of quinia.

Within a few years *iodine* has come to be regarded as a remedy for malarial diseases, of considerable value. As compared with quinia, it is relatively more efficient in chronic than in acute malarial poisoning. Compared with quinia, and the members of the benzol group above mentioned, iodine takes rank next after quinia. The tincture, the compound tincture, and the compound solution, are the preparations usually employed, and of these, the last mentioned is least objectionable. Iodine agrees with the other remedies used against malarious diseases in antiseptic power, but differs from them in having no antipyretic action. This fact casts a much-needed illumination on the nature of the causes producing malarial disease, indicating that the *materies morbi* is a ferment or a minute organism. The action of iodine on albuminous substances, serves to indicate the nature of the effect it has on germs and ferments. Although iodine solution, promptly administered, will cut short a considerable proportion of intermittents, it has not the antiperiodic power of quinia. It has an important place as a remedy for the complications of malarial fevers, for the enlarged spleen, the congested liver, and the pigment formation and deposit. It is good practice to utilize the effects of carbolic acid and of iodine in the treatment of these complications, and as aids to the curative action of quinia. For example a combination of the two in small quantity and frequently repeated (℞. Tinct. iodinii comp. ʒij; Acidi carbolici, ʒj. M. S. One drop every hour or two) is an efficient means of checking the vomiting, which is often a most embarrassing complication of acute malarial poisoning. Whilst it thus prepares the way for the stomachal administration of quinia, it exerts no little antiperiodic power. If full doses of quinia are given to prevent the febrile paroxysms, and in anticipation of them, iodine and carbolic acid can be administered in the intervals. Beside the internal use of iodine preparations, the local application of the official ointment of the red iodide of mercury is in a high degree efficient as a remedy for enlarged spleen and liver. This practice, derived from the physicians of India, should be carried out with attention to certain details enjoined by them. A piece of the ointment, the size of a pea, is rubbed in thoroughly over the whole splenic or hepatic region, the part being exposed to the direct rays of the sun, or to the heat of a bright open fire. After one or more frictions with the ointment, the epidermis shrivels and is detached, leaving the true skin somewhat red and irritable. Applications must be suspended until the skin is in a condition to bear them. The number of applications required cannot be stated beforehand, but that they are effective in reducing the size of the enlarged spleen, and in diminishing the congestion of the liver, has been proved by an abundant clinical experience.

Within a few years past *eucalyptus* has been brought forward as a remedy for malarial diseases, and at one time quite an exaggerated estimate of its powers was current in the medical profession and in the community. It soon found its proper place as an adjunct to more efficient remedies, and as a tonic and restorative after malarial attacks had been arrested. Within these limits it is useful, but as the principal remedy it is far inferior to some of those mentioned above.

SUMMER SPORTS.

We hail with not a little pleasure the increase of out-door, and, therefore, especially of summer sports and pastimes among us. As a people, we work too long and too intensely. Time was when every one was expected to be at his business from early till late. Close rooms in winter, hot rooms in summer, made havoc with health. When business did not drive the man, the man drove his business. Little, if any, time was given to recreation. Saint's days we have none, and patriotic holidays are few and far between.

True for the men, this state of things was truer still as to women. After a girl reached an age and a size when modesty forbade her indulgence in the sports and games of children, what was there for her to do? She could play with "grace hoops" or battledore and shuttlecock, but soon tired of them, even if she ever began them; or could ride, which was expensive and often impracticable; or could walk, provided she had company: the result was that practically she sometimes walked to school and back, or to do a little shopping, attended to a few in-door household duties, studied, read novels, went to parties, to church, to places of amusement, married, and became at once both a mother and an invalid.

We are glad to recognize a change within the last score of years, and especially, perhaps, the last five or ten. Out-of-door sports and games have grown steadily and rapidly in favor. Cricket and base-ball, rowing and archery, croquet and tennis, have made many converts, and the young men of our cities—for it is of our city population that we are especially writing—are losing the pallor and leanness which was their wont, and are gaining in color and weight and freshness.

Such games do far more than merely effect a physical development. Their mental and moral influences are quite as important. A good cricketer, other things being equal, has a manliness developed in him that is worth a deal. Bodily vigor breeds independence of character. The ability to defend the weak predisposes to the chivalric virtues. Alertness of observation, preciseness and delicacy of muscular co-ordination, decision of character, personal bravery, generous rivalry, and all the better social qualities are developed by such sports. And these will tell in sterner times when the strain of accident or misfortune comes and tests the stuff we are made of.

But it is a still greater boon for women. Some of the lately introduced or lately revived sports have been happily vigorous enough for men, yet moderate enough for women, and so the pleasantest of all athletic conditions is realized when both can join to mutual advantage, the refining influence of the one and the manly strength of the other, each exerting a wholesome influence. No one objects to co-education of this kind.

"Out-door Clubs" are the order of the day, and their objects are as excellent as their name is appropriate. No better means of developing the health and strength of the present generation, and with it that of the next, have been devised. Their number and their advantages should be largely increased. We have often wondered why the English game of bowls has not been introduced on some of the beautifully smooth lawns to be seen on every hand.

Those who do not frequent such clubs take to similar games in the park or on their own lawns, and so gain health and happiness, good lungs, good stomachs, and good muscles. Others join "walking clubs," and explore the hidden nooks in the park and discover beauties no carriage can reveal. Nature is a shy beauty that must be wooed and won. Others again have formed the more pretentious clubs for systematic mountain exploration and improvement, such as the Appalachian Club in the White Mountains, and a similar one at the Delaware Water Gap. We are glad to see also that women are asserting their rights to the oar and the quoit, as well as the mallet, the bow and the racket. To foot-ball and fishing, the gloves and the foil, they will probably remain strangers in spite of what we are taught by a modern artist of the lessons the Roman women learned of the gladiators, and we do not wish to see Amazons in our drawing-rooms.

No class of women need development of the muscular and the respiratory systems more than growing school-girls, and as akin to the subject, we must urge a wider and more thorough introduction of the beautiful and graceful system of calisthenics recently devised and perfected. Not once or twice a week, but every day at least a half hour should be given to such exercise. In time we hope the American woman will not only have legs, but know how to use them; having a back, will be unconscious of it; and in time of emergency be able to swim or to row, to shoot or to climb almost as well as her brother.

"ALLOPATH."

"PUTTING away the 'Pathies" is the title of an editorial in a late number of the *Century*. It fairly represents the misnomer which chiefly the homœopaths have fastened on the regular profession; and the wrong idea which the public have of our position. At the late meeting of the American Medical Association at St. Paul we are glad to see that a protest was entered as to the use of the word "Allopathist." Homœopathy is a "'pathy;" regular medicine is not. "Allopathy" implies the doctrine of "*contraria contrariis*," which we spurn with as much contempt as we spurn that of "*similia similibus*," each being equally false.

We hold to no "exclusive dogma," save that it is our duty to cure disease as quickly and as safely and as happily as possible; no "pathy," save sympathy with the suffering and the injured. We maintain no other position than that of truth scientifically ascertained. We resent any other title than that of "physician."

The profession know no rules by which to administer any remedy but those of experience or induction from physiological and pathological research. If a remedy has been found to be useful in certain given conditions in one man, it will probably be useful in another, and after trial we seek either in the man or the medicine the reasons of its success or failure and act accordingly: if by investigation on man, or the lower animals, it is ascertained that a remedy produces certain effects, we may infer that it will be suited to combat disease when we wish to produce similar effects. Even here experience must be the absolute and final arbiter.

We are the true eclectics. We give any and all remedies, in any and all doses; we are at liberty to use aconite or mercury, hepar sulphuris or quinia; the only proviso is that it be on the avowed basis of experience or research, as already explained, and

not that like cures like, or that the smaller the dose the greater the effect.

The time has come for the whole profession to reject the misnomer so put upon us, and to proclaim its use as an error and a gross offence—all the more offensive because it is erroneous.

THE REGISTRATION OF PHYSICIANS.

THE Legislature of Pennsylvania a year ago passed a law requiring all physicians to register their names and residences with the prothonotary of each County, together with the authority under which he or she practices, *i. e.*, a recognized diploma, or evidence of ten years' practice.

Dr. S. B. Hoppin has just issued a little book giving the names, residences, office hours, place and date of graduation of each physician in the County of Philadelphia, and has classified them according to the various schools of practice.

The total number of all kinds is 1548, of whom the University of Pennsylvania leads with 551 graduates, and the Jefferson School with 437. Without diplomas there are 52.

To encourage any of the graduates of last spring who may think this "a good place to settle in," we simply desire him to determine the quotient when he divides the 850,000 of the population by the 1548 physicians to be supported by them, and to ask himself whether he thinks a constituency of 500 apiece, less the larger share absorbed by the favored practitioners, can do it.

But we have referred to the Register for another reason. It will be a convenient way of determining the professional position of every medical man in the County as determined by himself. Irregulars of all sorts who have graduated, it may be, at regular institutions, may be recognized at a glance.

ILLEGAL PRACTITIONERS.

WE learn that registration has been refused, in this County, to about 75 persons, all of whom are now *illegal* practitioners. What is the profession going to do about it in all the counties of the State? If nothing be done, wherein lies the good of registration?

Only two ways exist by which these pests are to be banished. It may be left to individual action. Possibly the fine of $100 in each case, $50 of which goes to the prosecutor, may be an inducement sufficient to secure their prosecution; or, secondly, the profession as a body, and represented by the various County Medical Societies, may prosecute them. We urge most earnestly that they shall do so. They owe it to the public which is being duped and plundered by these vampires contrary to all law and right; they owe it to themselves as members of a learned and honorable profession to root out from among them such pretenders to science, who disgrace the profession and every one in it. The expense, which has always to be considered, would be but trifling when compared with the good done to the community, and the fines would recoup the Societies to some extent. The prosecution of a dozen such illegal practitioners in this city would put the other three score to flight, lest they too come to grief. Action should be speedy and rigorous.

THE TRICYCLE.

THE doctor's "gig," or "chair," or "one-hoss shay," it seems, may go to the wall. These homely and inexpensive means of locomotion are in danger of being thrust aside by the tricycle, according to *Chambers' Journal*. When in London, last summer, we were struck by the ease and speed with which many persons passed on their way, evidently not for pleasure, but on business, on this to us rather novel vehicle. Even at night, the protecting red light made their use perfectly feasible. Doctors and postmen seem to have taken very heartily to their use, and in many parts of England, in which railway facilities are very limited, they have supplanted the horse to a large extent. The traveller, with ample baggage, can make six to ten miles an hour, without undue fatigue, over the splendid English roads; and the "sociable" form carries two—as may be seen in *Punch*.

But a late improvement really makes the tricycle a possibility. One of the first uses M. Faure made of the storage battery was to propel such a machine at ten miles an hour. With improvements sure to come, we see no reason why the electric tricycle should not become a favorite means of travel, at least, where streets and roads are good. Would that we could say that we saw as good reason to hope for an equal improvement in the highways.

MAYOR KING, of Philadelphia, has shown that the lives and comfort and money of a community can be considered on the "glorious Fourth" as well as on other days.

For two years now we have been spared fire upon fire; the sick and the well have had relief from the pestiferous fire-cracker; and life and limb have been spared. The toy-pistol has had no victims, and the accident- and death-roll at the Pennsylvania and other hospitals have shown no dreadful list of casualties such as we have been accustomed to for years.

Patriotism can and must find other means of expression than the maiming and death-dealing modes hitherto in use. We commend the example to other cities.

SOCIETY PROCEEDINGS.

THE MAINE MEDICAL ASSOCIATION.

Thirtieth Annual Meeting, held at Portland, June 13, 14, and 15, 1882.

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, JUNE 13TH.—The Thirtieth Annual Session of the Maine Medical Association opened in the Council Chamber, city building, at Portland, at 10.30 o'clock A.M., the PRESIDENT, DR. A. K. P. MESERVE, of Portland, in the chair.

The morning session of the first day, after prayer by Rev. J. P. Warren, of Portland, was devoted to the transaction of

MISCELLANEOUS BUSINESS,

the appointment of various committees, hearing the reports of the Treasurer, the Visitors to the Medical School of Maine, and the Portland School for Medical Instruction.

The *Report of the Treasurer*, Dr. A. S. Thayer, of Portland, showed the financial affairs of the Association to be in every way prosperous.

From the committees appointed *to visit the "Medical School of Maine" and the "Portland School for Medical Instruction,"* the reports were highly satisfactory, and testified to the thorough manner in which the duties assigned had been performed.

The curriculum, methods of study and instruction, and the results of the labor of instructors and students, as evinced by recitations, and the final examinations for degrees, were carefully and fairly criticised. Special praise was accorded the instructors in both these schools for their efforts in the direction of a higher standard, by preliminary entrance examinations, longer terms, and a scale of high marks.

The AFTERNOON SESSION opened at 3 o'clock, DR. B. F. STURGIS, of Auburn, in the chair.

In accordance with a resolution of the Society, adopted in 1878, the retiring President, Dr. Meserve, then read

THE ANNUAL ADDRESS.

After a few introductory remarks, the speaker alluded to the sad death of his predecessor, Prof. Wm. Warren Greene.

The Association was then congratulated that its members had labored so earnestly and successfully to keep pace with advancing medical science, and attention called to the practical benefits which had resulted from a strict enforcement of the rule to allow questions of ethics and personal relations to be taken from the Board of Censors, and discussed only by a *unanimous vote.*

It is often difficult—almost impossible, in view of the vast bulk of medical literature, and the countless aids to professional and scientific advancement—to solve the problem of how to best select and appropriate those of the most advantage. Each must determine for himself, but by careful inquiry, by the notices and reviews in the medical journals, by a full and free interchange of opinions, the solution may in part be found.

It was urged that the members strive to contribute matters of interest to the general practitioner and avoid too great a tendency to devote more than a fair amount of time to those specialties having interest only for the few.

There is also too great a danger, especially noticeable among writers, of ignoring or but slightly noticing the treatment of disease. This is doubtless occasioned in part by the enormous strides which have been made in biological investigations, and the special branches of normal and pathological histology, but how few, comparatively, are they who to-day are conscientiously and in true scientific spirit investigating the action of medicines upon the human economy! This is an important field, in which great and successful labor yet remains to be wrought. "Let us give due prominence to the art of medicine."

So little success had attended previous efforts to secure legislation favorable to the elevation of medical practice, or the enactment of needed sanitary laws, that further recommendations seemed useless; but in 1881 a law was passed regulating the practice of attorneys, and bills of interest to the medical profession may perhaps in future meet with less opposition. In truth, the demand for laws of registration, or for otherwise preventing irregular practice, must come from the people whom it was the duty of our profession to so enlighten that they might understand the difference between an educated physician and an empiric. They should clearly understand the definition and true bearing of the term "*regular* physician," and know that we entirely disclaim any such title as "allopath," or any designation whatever.

Expert testimony should only be given at the request of the Court, or the Court itself should be arbitrator. Legislation in this direction is imperative, as preserving the good name of the profession, and to this end the Association ought diligently to labor. As a State Board of Health is yet a thing of futurity, the Association must find what consolation it may in the passage of the anatomical bill enacted in 1881, until the preservation of health and life may seem at least of equal importance with the aspirations of politicians.

To the efforts of the Association has been due in no small degree the past elevation of the medical profession of Maine to a higher standard of usefulness and to a nearer approach to the ideal physician, whose presence always brings comfort and inspires confidence among the unfortunate and afflicted.

After a vote of thanks to Dr. Meserve for his able and instructive address, DR. W. K. OAKES, of Auburn, read a paper on

THE ADMINISTRATION OF ETHER.

In the consideration of this subject, he presented three divisions:

1st. What class of cases are suitable for its use?

2d. What inhaler is the best for general use?

3d. What rules or methods are to be observed in the course of its administration?

In answer to the first, he stated that, except in cases of extensive valvular lesions, or advanced stage of phthisis, he had never felt obliged to deny a patient the benefit of ether, and even then thought the risk from ether much less than the probable shock.

Second. The inhaler, which in his hands seemed best to meet all requirements, was a cone rolled up from alternate layers of towel and thick paper, and provided with a wad of cotton; it was inexpensive, saved ether, and was easily constructed. He had also used the thin folded towel covered by dry ones if necessary, but found it inferior to the method mentioned.

Third. The doctor would urge more uniformity in the manner of administration; considered it unfortunate that no more explicit and definite instruction was given students on this subject.

Complete anæsthesia is by no means devoid of danger, and calls for the greatest skill and caution on the part of the administrator, who should devote his whole attention to this and this only. The room should be perfectly quiet; the patient should be impressed with the necessity of taking full and deep inspirations, and of keeping in mind all the time the last instruction to "keep perfectly quiet;" and, having loosened the cloth-

ing about the waist and throat, the saturated cone should be gradually approximated to the face, allowing a free admixture of fresh air, until the anæsthetic begins to manifest its effects.

The choking or coughing stage may be obviated by a breath of fresh air, and the tendency to swallow the tongue, by keeping the head bent well back. As little force should be used as possible.

His attempts at prevention of vomiting had been attended with little success. Had failed with bromides —hypodermics of morphia—and often after having prohibited solid food for several hours previous.

In all cases demanding severe operations, the anæsthesia should be complete before beginning. Some minor operations, such as extraction of teeth, and incision of felons, might be made at the moment of the first impression. He thought the danger from shock producing heart failure very slight with ether in such small operations, as compared with chloroform. More dependence is to be placed upon the respiratory movements, than the force and frequency of the pulse, as indicating the condition of the patient. If cyanosis threatens, and a few whiffs of fresh air do not revive the patient, Sylvester's method of artificial respiration should be at once employed.

A detailed record of thirty-one fatal cases from ether, unmixed with any other anæsthetic, shows that eleven died within fifteen minutes after the commencement of the operation, when but a small amount of ether had been taken. Five of them died in from an hour and a half to forty hours after completion of the operation. Fifteen were under forty years of age, and sixteen over forty. The youngest was fourteen, and the oldest over eighty.

No record of deaths in dentists' chairs was reported. He believed that at such times a physician should always administer the ether.

In concluding, he said he hoped the discussion might bring out the experience and practice of others in administration, management of accidents, prevention of nausea or vomiting, and the use of agents other than ether.

DR. HUNT recommended, as a preventive of vomiting, the administration of a full dose of some alcoholic one hour before giving the ether.

DR. GORDON preferred to give the ether on an old towel, folded, allowing a free admixture of air. By this method, he claimed that the administration was easier, and more rapid. He very rarely spent more than five minutes in etherizing any patient; oftener consumed from three to four minutes, and an ounce or two of ether.

DR. GERRISH preferred the towel to the cone, though it was wasteful of ether. He had not had any success in quick administration, but averaged from ten to fifteen minutes. He thought the administration of from seventy to eighty grains of bromide of sodium, during the twenty-four hours previous to operation, had in his hands been successful in preventing emesis.

DR. O'BRION said the exigencies of ether could not always be guarded against in a busy country practice. As a preventive of waste, he would cover the ether towel with one wet in water. Believed emesis to be oftener produced by paralysis of the pneumogastric than by a full stomach.

DR. CROOKER relies much upon carbolic acid.

DR. A. J. FULLER, of Bath, reported

A CASE OF UNUSUAL ACCUMULATION OF ASCITIC FLUID.

The patient, a married lady, sixty-five years of age, was tapped, in all, forty-three times. The first operation relieved her of twenty-two and a half quarts of clear serum; the last operation was on February 12, 1882, one year and nine months from the first tapping, during which time seven hundred and ten quarts of fluid were removed. The patient died two weeks from the date of the last operation.

REPORTS.

DR. SANBORN, of Augusta, read his report as delegate to the Connecticut Medical Society; and DR. E. EUGENE HOLT, of Portland, read a brief account of his visit to the Seventh International Medical Congress last August.

CONGENITAL MALFORMATIONS.

Among the voluntary reports of interesting cases was one by DR. O'BRION, of Bristol. A female child was born, after an easy labor, with what appeared to be an intra-uterine amputation of the left forearm. Close examination revealed an otherwise perfectly formed child. But the deformity proved to be not an amputation, but the substitution of a well-formed ankle and foot for a forearm. This was of normal size, situated at what should have been the elbow-joint, presenting its plantar surface forward. The child is now six years of age, and perfectly healthy. The supplementary foot has increased not quite in proportion to the other members, but is destitute of any bony structure; in other respects it is a perfectly formed foot.

DR. ADAMS, of Litchfield, reported a case of a child born with fractures of all the long bones, attributed to an accident during the third month of pregnancy.

The EVENING SESSION opened at 8 o'clock with a paper by Dr. E. EUGENE HOLT, of Portland, on

SYMPATHETIC DISEASES OF THE LACHRYMAL APPARATUS.

After a brief review of the anatomy and physiology of the lachrymal region, the author passed directly to speak of epiphora, regarding it as dependent upon, (1) affections of the lachrymal gland itself; (2) granulations or foreign bodies on the lid or in the retro-tarsal fold; (3) displacement, obstruction, or obliteration of the semilunar fold and caruncles; (4) stricture of, or foreign body in, the canaliculus; (5) Inflammation of the lachrymal sac; (6) stricture of the nasal duct; (7) naso-pharyngeal catarrh, polypus or foreign body in nasal cavity, granulations or adenoid growths in the vault of the pharynx; (8) ametropia; (9) paresis or paralysis of the facial nerve; (10) mental influences.

Statistics were presented compiled from fifty-one cases of lachrymal disease, illustrating the operation of these different causes. When the epiphora had resulted from ametropia, the excessive lachrymation had been greatly or entirely relieved by the application of glasses to correct the optical defect.

Conservative treatment had been adopted in the writer's first series of cases of lachrymal disease, and radical treatment in the second; his preference was decidedly in favor of the milder measures.

Lachrymal abscess was often mistaken by the general practitioner for erysipelas. If seen early, the trouble might be averted by hot water, hot fomentations, leeching, or steaming; if not, then recourse should be at once had to the knife, when an opening might be made through the canaliculus, or by Agnew's method, entering the sac by a Beer's cataract knife, through the mucous membrane at the angle behind the canaliculus just in front of the caruncle; the sac should be opened through the skin only as a last resort.

It was stated that the milder treatment of this distressing affection was strongly urged by Fitzgerald and Swanzey, of Dublin, as well as by Power and Bozeman, of London, and many Continental ophthalmologists.

In the discussion following, DR. SPAULDING thought that the prognosis in cases of diseases of the lachrymal

apparatus depended largely upon the locality of the obstruction. If the latter were situated in the puncta, canaliculi, or even at the entrance to the sac, a favorable result could be almost surely relied upon. But when the obstruction, stricture, or inflammation was deep seated in the sac itself or in the nasal duct, the affection was liable to be very obstinate. (This point was elucidated by various cases reported.)

In slitting open the canaliculi we should be careful not to make the incision outward, but inward, so as to form a reservoir for the tears. Large probes were occasionally beneficial, but their long-continued use might cause extensive inflammation in the neighboring tissues.

In blenorrhœa of the sac, local applications (by means of the syringe) of boracic acid and different astringents were always indicated.

It is bad surgery to apply poultices over an inflamed lachrymal sac. Two cases of lachrymal fistula dependent upon this treatment were reported; under all such circumstances the surgeon should insist upon the knife, for he could then open where he chose and make a smooth incision, which could be kept clean and thoroughly drained.

DR. STANLEY P. WARREN, of Portland, presented a practical paper on

"TREATMENT OF THE PLACENTA AFTER ABORTION."

The writer classified abortions under four heads, advocating primary extraction of the placenta without leaving the result to nature, observing, of course, all proper precautions with reference to shock and hemorrhage.

Class I.—Sudden flooding, cervix open, severe shock, and it is unknown whether the placenta has been expelled or not.

Class II.—Moderate hemorrhage; the fœtus has recently been expelled; the cervix open, and the placenta within reach; general condition good.

Class III.—The fœtus has been expelled for some days; the secundines are retained; the lochiæ are fetid and some form of septic inflammation is present in the pelvic cavity.

Class IV.—There has been more or less flooding; fœtus has been expelled; cervix is closed, and the placenta cannot be reached by the finger; general condition good.

Cases were cited illustrating each of these divisions, and facts presented as to the subsequent condition and labors of these patients.

For the first class the Doctor recommended procedures which should relieve shock and check hemorrhage, and as soon as reaction was well established the contents of the uterus, if any, should be removed.

In the second class there appears to be no question as to the propriety of immediately evacuating the uterus if the placenta is free and can be removed *without preliminary dilation of the cervix.* It is to be regarded as simply a foreign body. There is less danger of injury to the tissues with the finger than with the curette; it has also the advantage of the sense of touch. The curette, on the other hand, causes less pain and may be used with or without the speculum; has not found the ovum forceps as safe as the curette, still less than the finger, and ought to be used very cautiously in the uterine cavity.

In the third class, where we have present or impending some metritis, no good reason obtains why the uterus should not be, within 24 hours, relieved of its contents and thoroughly cleaned; the cervix is usually patent and requires no dilation; a dull curette, followed by intra-uterine, not carbolized, injections, will accomplish every desired object in the way of removal. The quicker the focus of infection is taken away, the less is reparative action delayed and septicæmia to be expected.

In dealing with class third, when the fœtus is expelled, but the placenta shut up in the uterine cavity, obstetricians must choose whether they will "do nothing," relying upon rest and opiates, or mechanically dilate the cervix, perhaps, with a sponge tent, and, as they say, "let nature take its course," or they *may remove* the placenta within twenty-four hours after the expulsion of the embryo, using dilators for some hours before operating, or dilating with finger, and immediately extracting.

On these points of procedure the most distinguished obstetricians and gynecologists in the country differ.

It has been urged in objection—

1. It is unnecessary, since the vast majority of patients do well if let alone.

2. It is the finger, curette, or forceps that does the damage, rather than the retained placenta.

3. It is very difficult, perhaps impossible, to entirely remove an adherent placenta, and septicæmia can be caused by a placental tuft as surely as by the entire organ.

To these objections the Doctor replied:

1. Tonic contractions are essential to the arrest of hemorrhage; there cannot be tonic contractions until the placenta is expelled, and the less will be the hemorrhage existing or possible.

2. Anxiety in both patient and physician will be prevented by early completion of the abortion.

3. Time is gained in uterine involution.

4. Absorption of putrilage from retained secundines is unquestionably the most frequent sequel in abortion; when the uterus is thoroughly disinfected, septicæmia is evidently imaginary. Possible accidents from manipulation are not a sufficient reason for permitting a placenta to be removed by decomposition, ignoring the fact that self-imprisonment must be imminent; by early removal, therefore, of the placenta, septicæmia is prevented.

5. Clinically, after abortion, metritis can rarely be traced to direct mechanical violence. If lesions have occurred in the process of extraction, infection in an empty uterus must be slight when compared with one in which the entire absorbing surface is exposed, and covered by a decomposing placenta.

Inasmuch as the session had already been prolonged to a late hour, beyond the usual time for adjournment, this paper did not receive as much discussion as so interesting a subject, and more particularly the merit of the paper itself, deserved.

WEDNESDAY, JUNE 14.

The Association met at 9 A.M., and unanimously adopted the resolution condemning

THE NEW YORK CODE

offered by DR. S. H. WEEKS, of Portland (see THE MEDICAL NEWS, June 24, p. 703).

DR. M. W. HALL, of Saco, read a paper on

RUBEOLA,

illustrated by facts and statistics from his own practice and that of other members.

DR. E. C. HILL, of Lewiston, presented

A CASE OF SEXUAL MALFORMATION

for inspection. The patient, a well-developed child of four years, had presented this abnormality from birth. The clitoris was apparently a penis, though imperforate; the meatus urinarius was situated some distance within the ostium vaginæ, which had been enlarged to admit of a free passage of urine and exploratory examination. The uterus was normal. Subsequently the clitoris was amputated in the presence of several members of the Association.

RESIGNATION OF THE SECRETARY.

DR. CHARLES O. HUNT, Superintendent of the Maine General Hospital, tendered his resignation as Recording Secretary, after fourteen years of continuous service.

In accepting this resignation the Association adopted the following resolution:

Resolved, That in accepting the resignation of Dr. Charles O. Hunt as Secretary of the Maine Medical Association, we tender to him our sincere thanks for the able and efficient manner in which he has performed the duties of the office, and regret exceedingly that he feels obliged to resign his position on account of pressure of other business engagements.

Drs. C. W. Johnson, of Machias; Dr. Decker, of Fort Fairfield; and Dr. George W. Stoner, of the U. S. Marine Hospital Service, were introduced to the Association and invited to participate in the discussions.

DR. JAS. A. SPALDING, of Portland, read a paper on

THE EXTRACTION OF CATARACT,

showing by diagrams the various methods of making the incision, of performing the iridectomy, of opening the capsule, and of removing the cataractous lens from the eye.

Several cases were referred to, in his own practice, showing how the operation might miscarry from no fault of the operator. "We are apt to forget that an eye affected by cataract is no longer young, no longer healthy; on the other hand we should be ready to avail ourselves of the result of experience and practical study, in order to save an eye which might have undergone inflammation after a perfect extraction of the cataract."

Great stress was laid upon the careful performance of every step in the operation, as well as upon the necessity of absolute rest subsequently.

The author then mentioned the excellent results which he had lately obtained in several cases in private practice, as well as at the Maine General Hospital, but did not offer any statistics, his figures being at present too small to compare with the larger ones of more widely known ophthalmologists.

MISCELLANEOUS BUSINESS.

The PRESIDENT appointed a committee to revise the by-laws, and report next year.

DR. SANGER'S report on proposed changes in the constitution was accepted, and lies over for action until the meeting of 1883.

DRS. PIERCE, of Freeport, and THAYER, of Portland, reported cases in which a large amount of pleuritic effusion was eliminated by expectoration.

AFTERNOON SESSION. — The Association came together at three o'clock, and resumed its work by welcoming delegates from other Societies.

From the Massachusetts Society were present Drs. Dwight, of Amherst, and White, of Somerville.

Dr. Gibson, of New Hampshire, was introduced as a delegate from the White Mountain Medical Society.

The Association then proceeded to

THE ELECTION OF OFFICERS.

DR. GEO. E. BRICKETT, of Augusta, was elected *President*.

The Nominating Committee reported the following list of officers and appointments. The report was accepted and those gentlemen declared elected.

Vice-Presidents.—Drs. J. B. Walker, of Thomaston, and E. A. Thompson, of Dover.

Recording Secretary.—Dr. Chas. D. Smith, of Portland.

Corresponding Secretary. — Dr. J. O. Webster, of Augusta.

Board of Censors.—Drs. H. N. Small, of Portland; W. K. Oakes, of Auburn; J. M. Bates, of Yarmouth; Wm. B. Cobb, of Standish; and J. D. Nutting, of Hallowell.

DR. BRICKETT, the newly elected President, read a paper entitled

TEN CASES OF AMPUTATION OF THE THIGH.

These operations were made to relieve diseases of the knee-joints, and after gunshot wounds and other injuries.

Two were made with use of "Listerism," and the remaining cases were treated in the old way with silk ligatures and cotton dressing. Recovery was secured in every case.

In his conclusions, the Doctor argued strongly:

1. That there is no need of the carbolic acid spray in amputations.

2. That all hemorrhage should be completely arrested before dressing.

3. That all bleeding vessels should be tied with either *silk* or catgut, and *cut short*.

4. That flaps should be united by the same material, and covered by dry absorbent cotton, or Lister's antiseptic gauze.

5. That drainage is not necessary if the surfaces are *perfectly dry* before approximation.

No drainage was established in any of the cases reported.

And lastly, that operating immediately after injuries, or before reaction follows shock, may sometimes be advisable.

DR. ST. C. O'BRION, of Bristol, then delivered the

ANNUAL ORATION,

entitled *The Young Physician*.

Dr. Byer, of the U. S. Navy, was introduced and invited to participate in the discussions.

DR. L. J. CROOKER, of Portland, exhibited an ingenious instrument to be used as an *exploring or evacuating trocar*.

At the EVENING SESSION DR. F. H. GERRISH, of Portland, reported the results in

TWO CASES OF REMOVAL OF UTERUS AND OVARIES,

the only cases of the kind which he had had, and, as far as he had learned, the only successful cases in the State.

The details of the operations and after-treatment were not given, having been previously reported to the County Society, but the essential facts were stated. The operations were performed to relieve patients of uterine fibroids, and consisted in each case in the removal of the body of the womb, the cervix being tied with silk just above the vaginal junction.

In the first case there was no shock, no hemorrhage, no peritonitis, no septicæmia, the patient slowly regaining her strength, and going to work in a farm house thirteen weeks after the operation. For more than ten months she has done all the woman's work on a small farm, and is in the enjoyment of good health. The remnant of the cervix is felt as a very small projection into the vagina, and there is not the smallest evidence of the existence of any inflammatory products anywhere in the pelvis.

In the second case septicæmia appeared at the end of a week, and nearly destroyed the patient. There was profuse hemorrhage from the vagina at the time when menstruation would have been expected but for the operation, and at the six subsequent periods there has been some profound perturbation of the system, sometimes a high fever, at others a violent hysterical attack, etc., as if nature, being deprived of the organ through which it had ordinarily expressed itself, sought new channels in quite different directions. The cervix

has dwindled, but all around the vault of the vagina is a thick mass of plastic material, exquisitely sensitive, and evidently the result of inflammation.

The patient is still an invalid, but apparently has a good chance of recovery in time. In both cases the ligatures escaped through the vagina.

DR. HOTT read a paper entitled

THREE MONTHS AT THE ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS,

embodying a description of the institution. The paper set forth some of the methods of operation there in vogue. It spoke of the treatment of ophthalmia neonatorum, so faithfully carried out by Dr. L. Webster Fox, then acting assistant house-surgeon, now of Philadelphia; of Buller's eye-shield for the protection of the sound eye in gonorrhœal ophthalmia; of the treatment of diphtheritic ophthalmia by the constant local application of a solution of quinia (Mr. Tweedy); of the use of eserine, and the different views as to the treatment of sympathetic inflammation; of tobacco amblyopia, and many of the rarer forms of ophthalmic disease.

In the ensuing discussion DR. SPALDING thought that the methods here employed did not differ essentially from those which the text-books laid down. Too much weight has been laid on diphtheritic conjunctivitis, which in our country, outside of the large cities, is so rare that it is doubtful if a genuine case has ever occurred, for instance, in Portland.

Eserine had proved itself dangerous in one or two cases of keratitis, setting up severe iritis. We should always remember that iritis is by no means uncommon in inflammation of the cornea; hence eserine should be used sparingly in the latter disease. Still it is a most valuable remedy; only the physician should generally be entrusted with its application to the eye.

Dr. Spalding could not agree with the views expressed concerning the doubt which had been mentioned as prevailing in cases of threatened or evident sympathetic ophthalmia.

The indications and counter-indications for enucleation had been so carefully laid down in Mauthner's "Sympathetic Diseases of the Eye," that every one should be able to decide upon the proper steps to be taken. Optico-ciliary neurotomy was not considered entirely satisfactory as a prophylactic against the transmission of this terrible affection.

THURSDAY, JUNE 15TH.—DR. J. O. WEBSTER, as delegate to the Massachusetts Medical Society, presented his report.

DR. CHADWICK read a touching eulogy on the late Dr. S. H. Tewskbury.

THE BOARD OF CENSORS

reported at some length, making the following appointments for the next meeting:

Orator.—DR. M. C. WEDGEWOOD, of Lewiston.

Necrologist.—Dr. S. C. Gordon, of Portland.

Also Visitors to the "Medical School of Maine," and the "Portland School for Medical Instruction." The number of subjects assigned for the next meeting is larger than heretofore, and it is hoped the session of 1883 will meet all expectations.

The Report of the Committee on Necrology was received and referred.

DR. GERRISH reported a case of

URETHRAL DIVERTICULA IN THE FEMALE.

He was obliged to catheterize a patient after a difficult parturition and had great trouble in doing so, on account of spasms, as he at first supposed. After prolonged and fruitless efforts, he etherized the patient but succeeded no better; he then called a skilful and experienced practitioner in consultation, who tried for a half hour to introduce the catheter, but in vain. Subsequently Dr. Gerrish discovered that the urethra made a sharp turn forwards, and that there was a diverticulum from each side, one two inches, and the other one inch in length.

After this there was no difficulty in drawing the urine or in entering the diverticula at will. They were not false passages, as the woman had never before had a catheter passed on her.

After the usual votes of thanks to retiring officers, and the city of Portland for use of the rooms, the meeting adjourned to meet at Portland on the second Tuesday of June, 1883.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, April 11, 1882.

DR. T. M. MARKOE, PRESIDENT, IN THE CHAIR.

DR. H. D. NOYES, on invitation, read a paper entitled *A Case of Lodgement of Foreign Body in the Cavities of the Nose, Orbit, and Cranium, where it remained Five Months; Removal by Operation; Subsequent Trephining for Pus in the Brain; Death; Autopsy;* which is published in full in the current number of *The American Journal of the Medical Sciences*, page 45.

DR. POST recalled one of Mackenzie's cases where the patient was able to walk several miles to a surgeon, and after the wound was dressed and recovery had so far advanced that he was quite well, he indulged in drinking, and a fatal inflammation developed as the result of the debauch. The foreign body was extracted during the progress of the fatal inflammation.

DR. R. F. WEIR remarked, concerning the literature of the subject, that the best account he had found of foreign bodies in the brain was in a prize essay by Dr. Wharton, of Philadelphia, who collected 316 cases, and in 14 of these the foreign body was a breech-pin. Of these 14, 9 appeared to bear out Dr. Noyes' remark fully, that when removed early the patient usually did well, for in every instance the foreign body was removed within three days and in some of them within a few hours after the reception of the injury, and recovery followed in 7 cases. Of the remaining 5 cases of the 14, the breech-pin in one remained 24 days, was not extracted, the wound in the brain healing perfectly, but the man died. In another it remained 28 days, was not extracted, and the man died in consequence of inflammation set up by excessive drinking. In another case reported by O'Callaghan in 1845, the breech-pin remained in the brain one year, and then the patient died from inflammation resulting from intemperance. In another case the foreign body remained 26 days, was three inches long, was extracted, and the patient recovered. In another case the foreign body remained 4 months, weighed two ounces, was extracted, and the patient recovered.

An important point raised by Dr. Noyes was, whether or not surgeons should refrain from interference in these cases. In looking over the list of cases referred to, he was struck by the fact that, sooner or later, where the body was not fixed or immovable, death occurred in consequence of inflammatory action from undue exercise, sudden jars, excessive drinking, etc. It would seem that this class of patients are exposed to danger all the time. This also obtained, though to a lesser degree, in those where the foreign body was imbedded or held firmly *in sitû*. He felt that the risk in a given number of cases would be less from interference, and that the surgeon would be justified in extracting the foreign body whenever met with, observing great precaution to free it carefully and thoroughly from all bony hindrance, so as to permit the extraction to be accomplished easily and without force, and in this way.

to disturb the cerebral end of the missile in the least possible degree. In other words, it should be lifted out, not pulled out.

The accounts presented of the successful removal by Beaumont of a piece of a rocket shaft; by Jamison of a piece of wood embedded four months; by Larrey of the point of a javelin fourteen years in the brain; by Mactier of the blade of a penknife, two inches long, six months *in situ*; and by Turnipseed of a similar foreign body lodged three years, with others equally forcible, encourage surgical opinion and action in this direction.

DR. STIMSON asked if the cavity in the anterior lobe on the right side in the specimen represented the cavity of the abscess evacuated at the time of the operation of trephining.

DR. NOYES said that it did not. The abscess struck at the time of using the trephine was formed about the cyst which enclosed the foreign body. But, from the trephining operation to the time of death, there was a continuous breaking down of brain substance, extending backward towards the middle lobe.

DR. GEO. A. PETERS said that, since the New York Hospital had occupied the present building, there had been a case in its wards similar, in some respects, to the one reported by Dr. Noyes. As he recollected, a man was shooting duck in Jersey; his gun exploded; and the breech-pin was driven into his forehead. It was extracted, and he recovered. Some years ago an explosion of nitro-glycerine occurred in Greenwich Street, and, two blocks above, a milkman was thrown from his wagon, and received injuries, for which he was brought to the hospital, where Dr. Peters saw him two or three hours afterwards, and found that a large fragment of the wagon had been driven through the parietal bone, and an inch or more into the substance of the brain. He was unable to move it; but, by gnawing the bone away with a rongeur, he succeeded in removing it, and the patient recovered.

The PRESIDENT thought that the line of practice in recent cases would be regarded as settled in favor of immediate removal of the foreign body. It seemed to him, however, that Dr. Noyes had suggested an important point upon which the cases cited by Dr. Weir, more carefully analyzed, might throw some light, namely, as to whether it is the duty of the surgeon in cases in which the foreign body has been in the brain for a considerable period without producing any symptoms, to remove the body under the apprehension that certain accidents might occur in the future, or whether it should be left, in the hope that these accidents might not occur or be long delayed.

DR. PETERS said that he should be loth to leave a foreign body in position for much time after he had discovered its existence, believing that the damage which it might occasion by being there, more than counterbalances the risk which might be incurred by any reasonable effort at removal.

DR. WEIR thought that the case reported by Eve, in his "Remarkable Cases in Surgery," supported Dr. Peters' views. In that case the breech-pin entered the ethmoid and sphenoid bones, but the cranium was not involved. It was carried, with much suffering and nasal discharge, by the patient for eight years, when one day attempting to sit upon a chair the patient sat through error forcibly upon the floor. The result was that the breech-pin broke, from the impulse, from its attachments, invaded the cranial cavity, determined a cerebral abscess, and caused death on the eighth day afterwards. In other words, he thought in recapitulation that the risks of leaving the foreign body were greater than those which came from an operation for its removal.

DR. STIMSON thought it desirable, if possible, to ascertain what the effect of the practice was in this case. From where did the pus come at the time of the first operation?

DR. NOYES said that the first operation was simply enlarging the opening in the orbital plate, two weeks after removal of the foreign body. The pus was found just above the orbital plate, and was evacuated by an incision which enlarged the aperture in the dura-mater made by the foreign body; and it was quite probable that the abscess extended back into the brain substance, beyond the cyst. He thought that disintegration was going on about the cyst at that time. During the two weeks there had been discharge of purulent material that was very offensive, and it was assumed, and the light of subsequent experience seemed to show that the assumption was correct, that it came from within the cranium. Before the foreign body was removed, there was only a slight ichorous discharge from the nostril. It was quite probable that the cavity of the abscess might have been reached from the orbital side had he proceeded a little further with the exploration. To attack the abscess through the orbital plate was attended by serious inconvenience for two reasons: 1. The drainage secured is bad. The head lying upon a pillow, the discharge does not easily find a way of escape. The trephine hole is more direct than the opening in the orbital plate. 2. The growth of reparative tissue in the orbit constituted an obstacle to free drainage, aud was also a constant source of embarrassment in the dressings. Dr. Noyes thought that one of two suggestions, or, perhaps, a combination of both, would be advantageous in similar cases. First, it was suggested by Dr. Weir that perhaps it would be proper to try and reach the abscess by removing the orbital edge of the frontal bone with a chisel or other means, and make an opening into the frontal lobe directly at the edge of the brow. The same suggestion has already been made by Berlin.

A second suggestion is that the best evacuation of the abscess can possibly be secured by entire evisceration of the contents of the orbit, because the surgeon in that way gets rid of a large mass of material that obstructs drainage and dressing.

DR. STIMSON thought that the existence of an inch and a quarter of solid brain tissue between the surface and the abscess at the time of the introduction of the drainage-tube, and the entire absence of that tissue at the end of 24 days was rather against the desirability of using a drainage-tube under such circumstances. He thought that an abscess situated at that distance below the surface should be reached through the original orbital opening rather than from above, notwithstanding the greater dependence of the opening made with the trephine.

DR. NOYES remarked that the drainage-tube was kept in place for only three days, and was introduced in accordance with a suggestion made by Dr. Lidell in the American edition of Holmes' "System of Surgery," in his notes to Prescott Hewett's article, as to the propriety of using a drainage-tube.

Dr. Lidell referred to the propriety of using a drainage-tube, as suggested in the American edition of "Holmes' System of Surgery," in his notes to Prescot Hewett's article. Another interesting question was with reference to the point at which the trephine should be applied, and, as already stated, it was chosen in accordance with the suggestion made by Dr. Janeway.

DR. JANEWAY said that the reasons that led him to select the point at which the trephine was applied were, (1) because the direction in which the missile entered, and the course of the track from which it had been removed, pointed towards its lodgement in the anterior lobe; (2) the fact of its having been in the anterior lobe during five months and yet producing no paraly-

sis, indicated that it had rested in a part of the frontal lobe anterior to the motor tract; and (3) the strong probabilities were that an abscess formation would have its centre at the the point where the foreign body had laid, and where in its removal a certain amount of injury had been inflicted upon the brain substance. A paralysis coming on after removal did not absolutely indicate abscess extending back to the motor tract, but it might be due to secondary inflammatory œdema spreading beyond an abscess.

He thought that the paralysis in this case was probably due to a secondary œdema rather than an abscess itself, because he had seen several cases in which paralysis had, without doubt, been produced in that way, because the original tumor, abscess, or injury, had been anterior to that portion of the brain the injury of which gives rise to paralysis.

Besides, if the trephining had been done over the motor tract and drainage was to be effected through the opening, the destruction of brain tissue in the motor tract, which would almost inevitably have followed, would have given rise to permanent hemiplegia.

The œdematous infiltration of the surrounding parts, secondary to an abscess, tumor, or foreign body, should always be kept in mind in estimating the probable cause of paralysis.

Another point of interest, surgical as well as medical, though belonging to a different class of cases, was the liability to the occurrence of abscess of the brain, etc., after the removal of a portion of the periosteum of the skull, and also after rhinoplastic and other operations of a similar character about the head. He had seen one case of rhinoplastic operation followed by abscess of the brain, and another followed by meningitis.

Dr. Knapp thought that Dr. Noyes' suggestion concerning complete removal of the contents of the orbit, could be readily carried into effect without special danger. With reference to tumors in the frontal part of the skull, they were very apt to prove fatal by meningitis.

Dr. Allan McLane Hamilton said that when he saw the patient it was some time after the paralysis had manifested itself, and there was involvement of the motor tracts and certain parts of the tegmentum. He was, however, struck by one thing, the comparative absence of psychic symptoms. Ferrier, Lepine, Baraduc, and others, have presented cases in which decided mental impairment followed injury of the frontal lobes. There was a condition which was symptomatized by a noticeable diminution of intelligence and concentration.

Ferrier's experiment upon monkeys were negative so far as paralysis was concerned, but a marked change was produced in the animal's disposition.

He remembered a case some years ago with extensive destruction of the frontal bone and hernia cerebri in a boy twelve years of age. Large masses of the brain substance were cut off, but there was no affection of intelligence. These two cases are exceptions (but rare ones) to Ferrier's law. According to Meynert, Wündt, and others, the anterior brain is what may be called the seat of inhibitory mental power, and extensive destruction shows this usually.

Dr. Janeway said that, whilst Dr. Noyes' patient would answer questions, and his intellect seemed, upon general observation, to be unimpaired, it was very questionable whether, if placed in his boyhood surroundings, and among his relatives and companions, he would have exhibited his usual mental power. Patients under similar circumstances might answer simple questions and do simple things when called upon; but questions which required a little more thought they were very frequently unable to answer, and then it was that mental impairment was manifested.

He had had a case in which there was greater primary destruction of the substance of one frontal lobe than in the case reported by Dr. Noyes, and yet the man was able to do ordinary kinds of work, and died of multiple embolism of the right anterior, middle, and posterior cerebral arteries, from ulcerative endocarditis.

At the autopsy it was found that there had been destruction of the first and second frontal convolutions, back to within an inch of their posterior extremities, over a space two inches in length, extending from the corpus callosum up to the surface, leaving a cyst two inches across, and partly filled with a plexus of convoluted veins.

The Society then adjourned.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, June 7, 1882.

W. S. W. Ruschenberger, M.D., President, in the Chair.

Dr. William B. Hopkins read a paper on *Tenosynovitis: its Causes, Nature, Symptoms, and Treatment; Based upon an Analysis of Fifteen Cases*, which he defined as an affection usually occurring in the forearm, and characterized by a peculiar creaking of the tendons as they move in their sheaths, depending upon a particular kind of strain to which the muscles belonging to these tendons have been subjected.

The predisposing cause of the affection is the occupation of the individual, and in studying, therefore, fifteen cases, occurring in subjects of otherwise average health, the nature of their employment is worthy of special attention. In three of the fifteen, the disease occurred in men employed in a dyehouse, whose work consisted in wringing the goods, which had been soaked in dye; in two, the patients were weavers, who throw the shuttle from side to side with the index finger of the right hand; one case occurred in a baker, from kneading bread; one in a boiler riveter, from hammering; one in a car-driver, from using the brake; one in an iron-moulder, from continued use of the shovel; one in a plaster-worker, from stirring plaster with a hoe; one in a washerwoman, from using a clothes wringer; one in a laborer, who continued to work after receiving a severe contusion of the forearm from the fall of a heavy iron pipe; and one each in a rope twister, a marble rubber, and a painter.

In contrasting the above-named occupations with many others, requiring far more muscular effort, and giving employment to many more workmen than these, the idea suggests itself that it is not the mere amount of strain to which the muscles and their tendons are put that predisposes to the disease, but rather the kind of effort which is of a tedious, continuous, monotonous sort. On the other hand, trades which would appear likely to furnish subjects for the disease more frequently than those which have been already spoken of, fail to do so. This, in some instances, can be explained. Gold beating, for example, where an eight-pound hammer is used almost uninterruptedly for five hours, and is carried from above the shoulder down to the level of the waist, would seem to contradict this view, as the disease is unknown to one of the largest gold leaf manufacturers; a careful study of the movements of the operatives in performing this work, however, shows that the strain is not upon the muscles of the forearm, but rather upon those of the shoulder and arm; as the hammer descends simply by gravity and returns by recoil from the elastic block, composed of alternate sheets of gold and animal membrane, to a point where the biceps and deltoid muscles complete the elevation.

The exciting cause of the attack is usually the resumption of work to which the individual is thoroughly accustomed, after a shorter or longer internal, when he is out of practice, and when the parts involved in executing special movements have become less actively

nourished; though, in the case of the washerwoman, the clothes-wringer was used for the first time, and the rope twister was doing work that was new to him. In the laborer the attack was of traumatic origin.

Pathology.—The means of determining the exact lesion in this disease are necessarily to a certain extent conjectural, but as the pain and crepitation are coincident in their onset and subsidence, as there is no impairment of motion after recovery has occurred, and as the parts under treatment regain their normal condition in a very short time, it seems highly probable that there is no true inflammatory process at all, certainly none extending beyond the stage of congestion, and that the creaking which exists is due to insufficient lubrication, with consequent dryness, not, as has been supposed, to exudation of lymph. Under rest and counter-irritation the congestion very soon disappears, the synovial surfaces pour out their proper fluid, and the tendons once more move smoothly and noiselessly in their sheaths.

Symptoms.—Soreness, amounting to positive pain upon motion or pressure along the course of the affected tendons, inability to use the part, and the presence of the peculiar creaking, which is communicated to the finger on palpation, are the symptoms which denote the existence of tenosynovitis.

Diagnosis.—From its common seat upon the dorsum of the forearm, this affection may be mistaken for fracture of the radius. The history of the case, however, showing that there has been no blow or fall, as a rule; the quality of the crepitus, which is much softer and finer than that of fracture, and like that of cellular emphysema after fracture of the ribs, or that produced by rubbing two pieces of cloth between the fingers, and the way in which the crepitation may be elicited,—all leave little chance of error. The disease will not be mistaken for a strain of the muscle, if a careful physical examination is made.

Treatment.—From what has been already said, it will be seen that the disease is at once acute, painful, and disabling. It, however, yields, as a rule, readily to treatment; for the patient can seldom work more than a day after he is attacked, and finding that he exhausts the usual home embrocations, without relief, promptly seeks aid elsewhere; this enables the surgeon to institute treatment before an advanced stage is reached and permanent mischief done by a deposition of plastic matter. Absolute rest of all the parts concerned is the most important element in the treatment; a palmar splint, therefore, from the elbow to the tips of the fingers is applied, when the forearm is the part affected. Counter-irritation is next indicated, and may be employed in one of two ways. If the skin is red, a band one inch broad of tincture of iodine should be painted in an oval form around the area over which creaking is felt; while a lotion of lead water and laudanum is applied within this band. In cases where there is but slight creaking, and no redness of the skin, tincture of iodine may be painted directly over the diseased part, without the employment of any lotion. The dressing is re-applied each day, until all pain, tenderness, and creaking have disappeared, which generally occurs at the end of four or five days. After this a roller bandage alone is continued, until the parts have regained their tone.

CORRESPONDENCE.

LETTER FROM BERLIN.

The Berlin Clinics—Profs. Virchow and Frerichs—The Bacillus Tuberculosis.

THE old Berlin student will easily find his way about in the Charité grounds to the well-known clinics, amphitheatres, and post-mortem rooms, as the general disposition of the medical centres has not changed much in the last fifteen or twenty years. Moreover, if from our country, and doubtless from anywhere else abroad, he will receive the same kindly greeting from the same well-known celebrities to whom he listened with such eager attention in his student days. Virchow is still here, active as ever, lecturing and demonstrating every day, with the same ease and accuracy, wasting no words, omitting nothing important, quiet, undemonstrative, precise, incisive as of old, with the same twinkle of the eye at every merry bon-mot, or, what occurs oftener, at every bit of satire. Advancing years have dealt very gently with him, as, except for a few gray hairs, there is no difference from fifteen years ago. He says there is a difference; that he is not so industrious as then; but the crowds of students and the heaps of material about flatly contradict him. Perhaps it is not right to say it, but I rather suspect that the lacking volume to the Geschwulst-lehre, and the lacking new edition of the Cellular-Pathologie, are due to the difficulty—it was Harvey who said it of himself in an apology for not at once receiving Asellius' views—of accepting newer doctrines at a later time of life. Inasmuch as I am not writing for posterity, I may not hesitate to say that I heard, not the professor himself, *Gott bewahr*, but a man high in the pathological department, say that Cohnheim's discovery was a *kinderspielerei!* This is dreadful gossip, and I would not mention it if it did not keep repeating itself like an echo round about. At our distance we can easily see that corpuscular migration was a most valuable discovery, if only, like its immediate predecessors, as a stepping-stone to something else; for it brought us back more peremptorily than anything before it, to look into the blood itself for the cause of the disease. But I was speaking of Prof. Virchow. What else could a student say, after the first salutation, than to observe that he had come back to the source of the waters to learn something more and something new? And to this came the quick reply, with a little touch of irony perhaps, "*Es giebt hier Nichts wie Pilse jetz!*" (there are nothing but germs here now). "It has been found out at last," he added, "that different germs can be colored different ways."

The regular didactic lecture to-day was upon osteomyelitis, and it is needless to say that the subject was handled with the easy grace of the master. There are about a hundred students upon the benches (the classes here are divided), and they show up a group about as motley as with us. Most are in strained attention, some are listless, some are restless. It is a great fault at all the lectures which I attended to-day that students came straggling in for half an hour after time. The lecture was abundantly illustrated with specimens, wet and dry, arranged upon tables in front, though but one or two were really picked up, talked about, and handed about the class. The discourse was just such a chapter as one might read in any good text-book, but it was very clearly and distinctly rendered, and was easily in the comprehension of every student in the room.

Osteo-myelitis gave opportunity, of course, for something about parasites, and I listened eagerly for what I knew must come in the section on etiology. In this regard there was something of a disappointment. The presence of germs was admitted, the existence of various kinds which are now being so attentively studied, but it was insisted upon, with more emphasis than seemed justifiable, that these germs may act, not only vitally, so to speak, but also chemically; that is, may evolve in their living processes a toxic substance which acts like a poison of chemical nature, and thus produces the malign effects attending sanies and ichor. This was the substance of what was said about germs in a very short time, considering the paramount importance

of etiology nowadays, while the bulk of the lecture was upon the pathological appearances of bone caries and necrosis.

Frerichs looks older than fifteen years ago; a most natural thing, indeed, but always an unwelcome thing to see in those whom we respect and esteem so much. If one would simply sit and listen with closed eyes, however, to his rich, deep, but distinct voice, as he sits upon the edge of the table, at the side of the bed, brought in before the class, he would not know that nearly a score of years had elapsed since he had heard the same words, so expressive of years of study and reflection.

Three cases came successively before the class—one of mastoid abscess, one of typhlitis, and one of cystopyelitis—a pretty good assortment for a hap-hazard clinic, as it was with me. A student is called down at each case, according to the German method, and the professor mostly talks to him, rather than to the class. If he looks up at all from the patient before him, it is at the student only, in expectation of an answer to the question addressed to him.

The first case was a good opportunity for the exhibition of a thorough clinical acquaintance with the cerebral circulation, in connection with the study of venous thrombosis, and it flowed as easily and voluminously as the current of a mighty stream. The typhlitic case was typical, and the lines were nicely drawn about peritonitis circumscripta and diffusa, ex continuitate, contiguitate, and ex perforatione. But the chapter on etiology was not so full as that on symptomatology and treatment. It was the old citation of hardened feces, foreign bodies, constipation, and the like, without allusion to, or explanation of, the fact that most cases affect males, with whom constipation, etc., is more rare, and among tuberculous patients, in whom arrest of peristalsis and accumulation of specific toxic products are so wont to occur.

After the brief history of the third case had been read by the clinical assistant to the class, mentioning merely the localized pain, the fever, and a previous attack of gonorrhœa, and the flask of blood-colored urine, scant in quantity, rich in albumen, but devoid of casts, was shown, the professor looked up in his usual quiet way for a diagnosis. "Nephritis," said the student. "Nephritis is a big word," said the professor, "and covers a multitude of things." Hereupon followed a rapid exclusion of any form of nephritis, and an easy inferential diagnosis of urethritis, cystitis, and pyelitis in the simplest possible sequence. But with all this, the chapter on etiology was unsatisfactory again. It was the old story of inflammation from calculi (pyelitis calculosa, with an ore rotunda, hard to describe), from catheterization, gonorrhœa, etc., but not a word about specific germs of any form.

Truly, we may lament, as Darwin did, about his theory, in a later edition of one of his works, "that the honored chiefs of our science have not yet given in their adhesion to the later views,"

I have not dared, as yet, to ask any of the "honored chiefs" what they thought about the bacillus tuberculosis, but Dr. Juergens, Virchow's first assistant for now over eight years (he has a book in press, by the way, and is about to describe a new disease, a new abdominal disease, so he told me to-day), shrugged his shoulders when I asked him about the bacillus tuberculosis, "We must wait awhile," he said. "I know that they are there, but I do not know that they are the cause of the disease." "Do you know Dr. Kock?" I ventured to inquire. "No, I have not seen him as yet, but I must look the subject up."

Nevertheless, the air rings with micrococci and bacilli about Berlin. It is something of a suppressed murmur as yet, and muttered mostly by the younger men, but it is gathering in force every day, and, so far as I can see, it threatens soon to play like a whirlwind with many cherished views.

And there is one man who does know that the bacillus tuberculosis is a fixed fact in science, and who is able to convince any one that it, and it alone, is the cause of the disease. May I say that they only shrug their shoulders who have not had time, as yet, or inclination, "to work the subject up," that, as Mr. Huxley said of Darwin long ago, "those who disbelieve him have never read his works." But about them and him another day.

J. T. W.

BERLIN, June 20, 1882.

REMINISCENCES OF EARLY MEDICAL TEACHING IN NEW ENGLAND.

To the Editor of THE MEDICAL NEWS.

DEAR SIR: Several years ago I had the honor of receiving, from a member of the family of the late Dr. Mifflin Wistar, an original letter of Dr. Waterhouse, addressed to Prof. Caspar Wistar, a copy of which is now printed below. It is interesting on account of its statements respecting the history of American medicine in Colonial times, and as a literary relic of a man who was in Boston almost as eminent as Dr. Wistar was in Philadelphia. Their early career was very nearly the same. Both studied medicine at Edinburgh and at Leyden, although not at the same time, for Waterhouse was eight years older than Wistar. He was born at Newport, R. I., in 1754, and, after holding the Chair of Theory and Practice of Medicine in Harvard University from 1783 to 1812, died in 1846, at the patriarchal age of ninety-two.

Wistar, as every Philadelphia physician knows, or ought to know, was born in 1761, and died in 1818, aged fifty-seven years. This letter was addressed to him when he was at the height of his fame, in 1808, the very year in which he was promoted from the Adjunct Professorship of Anatomy to the Chair of Anatomy in the University, an office which he brilliantly illustrated until his death. Even twenty years after this untimely event, the memory of his eloquent teaching and benignant character was still fresh and influential in the traditions of the school.

Yours, very truly, A. S.

3900 SPRUCE ST., PHILADELPHIA,
June 10, 1882.

CAMBRIDGE, Sept. 22, 1808.

DEAR SIR: Your inquiries respecting the history of anatomical instruction in New England led me to make a critical investigation of this matter.

The first anatomical lectures ever given in this region was in 1754, at Newport, Rhode Island, by Dr. William Hunter, a young Scotch physician. They were delivered gratuitously to the principal gentlemen of that Island, and were very well received. By what I can discover, they were old Dr. Monro's lectures, as far as regarded the order and the physiological and pathological remarks. Dr. Hunter's son is a gentleman of distinction in the line of the law at Newport. He offered to show me his father's lectures in MS. I have often heard my own father speak of Dr. Hunter's lectures with great satisfaction. These anatomical lectures procured the young Scotchman considerable reputation, so that in two years after, viz., 1756, he was appointed Surgeon to the Rhode Island Regiment, destined to operate in Canada against the French. Soon after, Dr. Hunter married into one of the most reputable and opulent families in the Island; had the most extensive practice, and was actually the first *man* who ever practised widwifery in that colony. This gentleman was the father of the beautiful Miss Hunter,

"*the fairest among the fair.*" Such a piece of anatomy and physiology mine eyes never beheld.

Dr. Wm. Hunter, beside a good medical education, possessed taste in the fine arts. He collected paintings, while his all-accomplished daughter celebrated his taste in music. When the British occupied Rhode Island, this gentleman gave strong evidence of his attachment to his countrymen, and was appointed physician to their military hospital, where he apparently caught a pestilential fever, which carried him off in a few days. I therefore consider Dr. William Hunter, of Newport, Rhode Island, the father of anatomical and surgical instruction in New England.

Perhaps it may be gratifying to your colleague, Dr. Woodhouse, to hear that in the year 1759 a short course of lectures and experiments in chemistry and electricity was given at Newport by my brother, Timothy Waterhouse, and by Solomon Southwick. They were given, not like Dr. Hunter's anatomy, publicly in the Courthouse, but privately to about a dozen persons. The experiments related chiefly to the docimastic art. Boerhaave was their fulcrum. They believed in the transmutation of metals, and wasted their time and money in the delirious pursuit of making gold. Prior to this period a general literature was diffused through Rhode Island by means of the public library founded by *Abraham Redwood*, a Friend, the William Logan of Rhode Island, and well known, I presume, to the venerable James Pemberton, whom I regret not seeing. The residence of Dean Berkeley and of Dr. Stiles gave, I apprehend, a cast of science to my native place prior to most other spots in New England.

It may possibly be equally gratifying to your other colleague, Dr. Barton, to learn that the first public lectures on *botany* and on *mineralogy* in New England were given at the Rhode Island College in the summer of 1786. Two years after, this course of lectures was given at the University of Cambridge by the same person, and has been continued by him in an humble style ever since. The printed sketch, or first outlines of them, you have already in your hands. Give my regards to Dr. Barton, and tell him that I regret that time was not allowed me to see more of him. My best regards to Dr. Woodhouse, who must not fail to let me see him when he again comes this way. I have forwarded his letter to Dr. Prince.

To be journeying a whole month without a single half hour of bad weather; to return in high health, and to find my family equally well; to learn upon inquiry that no inconvenience had occurred in my business, were events too agreeable almost to be expected; yet I enjoyed all this. In addition to it, I was able to look back on my excursion from home with entire satisfaction, and shall never recollect but with sentiments of affection, the cordial reception and marked attention which I have received from my brethren in Philadelphia, among whom I shall always remember Dr. Wistar with peculiar satisfaction.

The only take off to the pleasure of my journey from your city to this place, was the queer, the very queer, conduct of my companion. I remained a day extraordinary at Rhode Island for his gratification; I carried him in a chair to see the island; I endeavored to pay that sort of attention to him which I supposed would please any man who had eyes to see or heart to feel; but all my efforts at Newport to introduce him to the best and the most beautiful company were so ungraciously received that I gave it up in dispair. He took one way to Boston and *left* me to take another. He has just called on me with Dr. Spooner, and made a sort of apology. The man has shown his wisdom in not marrying. Mrs. Waterhouse joins me in respectful remembrance to Mrs. Wistar and sister, and would be very glad to see them, or any of their friends, at Cambridge. Compliments to Dr. Currie, Judge Smith, and son. I shall write to Dr. Seybert to thank him for his pains in showing me his interesting collection of minerals.

The day after I arrived we had an equinoctial gale, and last night we had ice; and I write this by a good fire. Tell Robert Proud, I very much regretted that I was hindered from visiting him, as well as from visiting the nestor of *our* society. I remain, with a high degree of esteem, Your friend,

BENJAMIN WATERHOUSE.

DR. CASPAR WISTAR,
Professor of Anatomy, etc. etc.,
Philadelphia.

RESULTS OF VACCINATION.

To the Editor of THE MEDICAL NEWS.

SIR: Having read the correspondence of several members of the profession in regard to some rather peculiar results of vaccination, I would say, in answer to the request, that my experience during the past winter has been quite similar to that reported from Illinois. I used ivory points, and quills with efficient results. The peculiar results of vaccination that I desire to report, are as follows:

CASE I.—Female, aged 14, well nourished, and of healthy parents, vaccinated January 2d; ten days from above date patient had a severe rigor, followed with pyrexia. Patient took to bed, where she remained four or five days, arm swollen to elbow, vesicle as large as a five-cent piece, vomiting, nausea, and a quite severe headache. At fourteenth day the swelling had extended to tips of fingers, and the arm was about thrice its normal dimensions; patient also suffered from "darting pains" in the arm. At sixteenth day crust had formed, which was now as large as a half-dollar silver coin, and surrounded by a dark-red areola outside of which numerous little vesicles made their appearance, which in time became pustules, and again the site of small crustations. When the large crust came away it left a deep ulcer, which healed slowly under carbolized cosmoline. The length of time from vaccination to time of perfect recovery was about twenty-two days.

CASE II.—Female, aged 22, single, well developed, menstruation regular, vaccinated December 28, 1881. Eighth day from time of vaccination patient had a chill followed by fever, and intense swelling of arm and forearm, vomiting, nausea, very foul breath, and severe headache; patient took to bed, where she remained four or five days, when the crust had formed which, in this case, was about the size of a two-cent copper coin. As the crust came away a large deep ulcer remained, which healed readily under a bandage.

CASE III.—Sister to Case I., aged 7, healthy, vaccinated January 2; about seventh day from time of vaccination, quite severe stomach trouble, with rise in temperature, was manifested, which continued for about three days, and at the same time the vaccination passed through its regular course. The peculiarity in this case was that about three weeks after the subsidence of all symptoms of vaccination an eruption, very similar to rubeola, made its appearance on the trunk and lower extremities; no itching, no other symptoms of measles or scarlatina; and after a duration of three days passed away without treatment. Whether this eruption bore any relation to the vaccination, I am unable to say.

I have never before, nor since, witnessed results of vaccination similar to those above related.

Respectfully yours,
J. A. WESSINGER, M.D.

HOWELL, MICH., July 8, 1882.

NEW INVENTIONS.

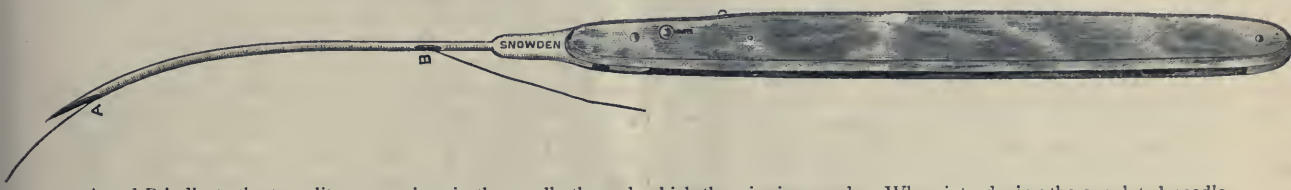
DESCRIPTION OF A CANULATED NEEDLE FOR INTRODUCING WIRE SUTURES IN SURGICAL OPERATIONS.

BY GEORGE McCLELLAN, M. D.,
OF PHILADELPHIA.

THE annoyance caused by the wire suture catching in the tissues on account of the doubling and twisting necessary to retain it in the eye of the ordinary needle is often very great, and the excessive oozing caused by the procedure most injurious.

In order to overcome this difficulty I had a little instrument constructed for me by Mr. Snowden, surgical cutler, No. 7 South 11th Street, which I have been constantly employing for several months in all operations where the approximation of the edges of the wounds required the introduction of wire sutures.

It consists of a long slender canulated needle, having a slit at the point, and another at the shoulder, where it joins the handle.



A and B indicate the two slits or openings in the needle through which the wire is passed. When introducing the canulated needle, the wire is of course either retracted or withdrawn, but as soon as the point A issues at the desired place the wire can be pushed forward, seized, and the needle withdrawn.

Although the idea of such a needle was entirely new to me when I first had it constructed, I have since learned that it was suggested and used by several surgeons many years ago. Dr. W. L. Atlee used a needle on this principle in his operations for ovariotomy, and Dr. Paul B. Goddard had needles of various sizes and forms for the purpose of passing wire sutures; but neither of these surgeons appear to have encouraged their general use.

The ordinary forms of needle, including the "screw-hole," and the "gutter-eyed," as well as the more recent suggestion of Dr. Morgan, of Baltimore, all require considerable time in their manipulation, and in many instances must be grasped by a holder that they may be properly introduced. In all of them the wire is apt to become caught in the tissues, or dislodged from the eye or stylet unless great care is taken to prevent it. The advantages of a canulated needle, such as is shown in the accompanying figure, will be apparent at a glance. The simple direct puncture of the needle will be found to occasion very little oozing, and as the handle offers firm support in the hand of the operator, great accuracy in the introduction of the sutures and complete exactness in the apposition of the parts are attained, the needle being made to transfix both margins of the wound at the same time, and the wire, when passed through taking its place.

The tearing of the knotted wire about the eye of a needle often causes a laceration instead of a puncture, and in some regions, as in the perineum or vagina, this minute rent is very apt to tear further when the sutures are tightened. The wire should always be carefully straightened by running it over the edge of the thumb nail to avoid any kinks which might interfere with its passage through the canulated needle. With this precaution it may then be introduced with much greater rapidity and precision than in any other way.

I have also found that this little instrument is very useful in taking the place of a tenaculum or artery forceps, either of which often loosen or tear away the ligature when they are being removed. I simply pass the needle through a bleeding point, then just forward the wire and withdraw the needle, leaving the wire so that it can be doubled into a loop, traction upon which will enable an assistant to throw a ligature completely round the vessel or bleeding point, as readily as a tenaculum, with this advantage, that as soon as the vessel is secured the wire may be cut, thereby avoiding the danger of displacing the ligature. This form of needle may also be used for the purpose of exploring. Upon introducing the point into a part where blood, serum, or pus is suspected to have accumulated, the fluid, if any exist, will pass through the needle and appear at the slit near the shoulder.

Objection may be raised to this form of needle on the score of the possibility of its conveying septic matter, but the same fault may be found with the hypodermic syringe, and it can readily be remedied by always retaining a piece of wire within the canulated needle when out of use and never forgetting to dip it in carbolized oil, both before and after it has been employed.

I need hardly say that the needle can readily be made straight or curved, as may be desired, but the form shown in the accompanying figure, which is designed for the pocket-case, will, I think, answer most purposes.

NEWS ITEMS.

LOUISVILLE.

(*From our Special Correspondent.*)

THE UNIVERSITY OF LOUISVILLE.—The Board of Trustees of the University of Louisville has elected Dr. John A. Octerlony to the Chair of Materia Medica, Therapeutics, and Clinical Medicine in the medical department of the University. Dr. L. S. McMurtry has been elected Demonstrator of Anatomy in the same institution.

THE NEW YORK CODE.—The action of the American Medical Association and other representative societies in relation to the "new departure" in New York, meets with universal approval throughout this State.

BALTIMORE.

(*From our Special Correspondent.*)

THE FACULTY OF THE BALTIMORE COLLEGE OF DENTAL SURGERY.—The vacancy caused by the withdrawal of Dr. James H. Harris from the Faculty of the Baltimore College of Dental Surgery, has been filled by the appointment of Dr. M. Whilldin Foster. Dr. R. B. Winder has been elected Dean of the Faculty, succeeding Dr. F. J. S. Gorgas, resigned.

The Faculty has been increased by the election of Drs. O. J. Coskery, Clinical Professor of Oral Surgery; C. F. Bevau, Professor of Anatomy, and Richard Gundry, Professor of Materia Medica and Therapeutics.

The three last-named gentlemen are also members of the Faculty of the College of Physicians and Surgeons.

BALTIMORE MEDICAL COLLEGE. — Dr. Archibald Atkinson has been elected Professor of the Principles and Practice of Medicine in the Baltimore Medical College.

A NURSE DIRECTORY, organized under the direction of the Medical and Chirurgical Faculty of Maryland, has been established, under the management of a committee of the Faculty, under the immediate charge of Dr. Wm. F. Lockwood. It is meeting with very encouraging success.

VIENNA.

(From our Special Correspondent.)

PROPHYLAXIS OF BLENNORRHŒA NEONATORUM.—Dr. Felsenreich, First Assistant in Prof. C. v. Braun's clinic, related at the last meeting of the Imperial and Royal Society of Physicians his experience in the prophylaxis of blennorrhœa neonatorum. Of five hundred trial-children, only two were sent into the Foundling Hospital with a light form of blennorrhœa. The results of his own experiments, and those of Dr. Borysikiewicz, Privat Docent, had created such confidence in Credé's prophylactic treatment that both Carl and Gustav Braun recognized it as routine treatment for every child born in their respective wards. In the time from March 1, 1881, to April 1, 1882, three thousand children were treated after Credé's method, and fifty-eight were sent to the Foundling Hospital with "sick eyes," 1.93 per cent., while a large number of children, treated according to an earlier method, simultaneously, gave a percentage of 4.34 of "sick-eyed" children. According to the view of Dr. Felsenreich, some special person must be entrusted with this duty, so that the midwife may have nothing whatever to do with the eyes of the new-born infant. He is of the opinion that the bathing-water is not instrumental in the communication either of catarrhal or blennorrhœal inflammations. Hausmann's and Olhausen's prophylactic treatment, *i. e.*, washing away the *materies morbi*, the vaginal secretions, from the eyelids and eyelashes with a solution of carbolic acid in water, he rejected totally, as being entirely inapplicable with midwives, who were sure to be careless in its administration. Credé's two methods: (1) washing out of the maternal genitals to prevent contact of the secretion with the conjunctiva, and (2) the introduction into the conjunctival sac of a corrosive fluid, such as a 2 per cent. argent. nitricum, so as to destroy the poisonous principle, are the methods now in vogue in these two clinics.

Hofrath Arlt, presiding officer, alluded to the difficulties, in the first days, of differentiating between catarrh and blennorrhœa. These difficulties totally invalidated the results of Dr. Königstein, undertaken in Prof. Spaeth's wards. The incubative stage of blennorrhœa is at least eight days; he was pleased that it was generally recognized that one had to contend with an infectious disease.

OBSTETRICAL NOTES: DILACERATION OF THE UMBILICAL CORD.—A strong woman gave birth to a child, while crossing the tracks of a tramway; the child fell upon the street-sand and the umbilical cord was torn in two. The child weighed 3200 grm., is perfectly healthy, and shows no sign of any contusion. The tear in the cord is about 10 cm. removed from the umbilical ring. This, however, is not the usual locality for dilaceration, in an upright or elevated position, to occur; for in this position rending generally brings with it a piece of the abdominal skin of the child or of the placenta, and tears it in its course, so that the division occurs 2–3 cm. removed from the umbilical ring. This matter is of great importance in a medico-legal aspect, where there is a suspicion that the mother herself has torn the cord in two, and then has laid the child aside. This suspicion can always be entertained when the remnant of the umbilical cord is long enough to admit of being grasped and torn. That avulsion of the umbilical cord generally is possible, the researches of Prof. Spaeth have abundantly proved. An average resistance of 5½ kilos., with fresh umbilical cords, has been determined by this investigator. The weight of a new-born child, 3 kilos., falling through the air, can readily overcome this resistance. Although in births in upright positions, not all umbilical cords are torn in two, yet the dilaceration is favored by a stretched course of the vessels, and by an absolute shortness of the umbilical cord. Avulsions of relatively short umbilical cords, that is, when the cords are wrapped around the necks or other portions of the bodies of children, occur very seldom during the act of birth.

A pertinent question is, can the life of the child be threatened by the indirect danger of hemorrhage? This danger only exists with feeble, asphyxiated children, and then only when the child is still in the maternal body. With strong children, however, who cry lustily, and breathe freely, it is possible to cut or tear in two the umbilical cord immediately after birth, and allow the child to lie without tying the cord; at highest estimate a coffee-spoonful of blood will escape. The vessels of the umbilical cord contract at once; their occlusion is favored by the circular fibres of the intima, and hemorrhage is arrested. On this account the verdict upon dead foundlings, by country physicians, "death in consequence of hemorrhage from the umbilical cord," is always to be regarded with a certain amount of suspicion and distrust.

THE LEWIS COUNTY (NEW YORK) MEDICAL SOCIETY AND THE NEW YORK CODE.—At the Annual Meeting of the Lewis County Medical Society the following resolutions were unanimously adopted:

Resolved, That the delegate from this Society to the New York State Medical Society is hereby instructed to use all honorable means in his power to have the New Code adopted at the last meeting of the State Society repealed. And, further, that he shall endeavor to have a special committee appointed to confer with the leading physicians in every part of the State as to their views regarding any changes desirable to be made in the by-laws and Code of Medical Ethics.

Resolved, That the above be published in the MEDICAL NEWS.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending July 1, 1882, indicate that measles, typho-malarial fever, inflammation of the bowels, intermittent fever, whooping-cough, and puerperal fever, have decreased in area of prevalence. There was no marked increase in any disease reported. Including reports by regular observers, and by others, small-pox was reported present during the week ending July 1, and since, at four places, as follows: at Detroit and Grand Rapids; at Kalamazoo (one case, convalescent), July 3; at Flint (many cases), July 5.

LIGATURE OF THE INNOMINATE ARTERY.—On Friday, June 9th, Mr. WILLIAM THOMSON, at the Richmond Surgical Hospital, Ireland, tied the innominate artery in a man, aged 45 years old, who was suffering from a large aneurism, involving the second and third parts of the subclavian artery, and three and a half inches in diameter. An ox-aorta ligature, one-sixth of an inch in diameter, was employed, and was passed round the innominate artery by means of the instrument specially devised by Mr. Barwell for the purpose. On

the third day the tumor felt firm, and was already diminished in size; the wound remained aseptic, only a small quantity of serum oozing from the drainage tube. On the thirteenth day, the pain, from which the patient had suffered much before operation, had completely disappeared, and sensation was returning in the right arm, which had been paralyzed for several months by the pressure of the aneurism on the brachial plexus. The tumor is smaller and absolutely still, and the wound had entirely healed, except at one point, kept open by a few threads of catgut. The pulse is 98, and the temperature normal.

The result of this operation is of considerable interest, on account of its gravity and rarity. Fifteen cases of the operation are on record, of which only one, that of Smyth, of New Orleans, recovered. In this case there was severe secondary hemorrhage, and it became necessary to ligature the vertebral and internal mammary arteries.

Successor to Prof. von Bruns.—For the chair left vacant by the death of Prof. von Bruns, the Tübingen Faculty has sent in its list of recommendations, placing Prof. Bergmann, of Würzburg, first; Profs. Socin, Maas, and Schede, second; and Prof. Bruns, Jr., third.

Appointments.—Dr. Herman Knapp has been appointed to the Chair of Ophthalmology, and Dr. Newton M. Shaffer to that of Orthopedic Surgery, in the Medical Department of the University of the City of New York. Dr. Stephen Smith has been transferred to the Professorship of Clinical Surgery.

Assault on an Insane Hospital Superintendent.—Dr. Orange, the Superintendent of the Broadmoor Asylum, England, was assaulted by Rev. H. J. Dodwell, an insane patient. Dr. Orange was struck on the head with a stone slung in a handkerchief, but was only slightly injured as he was able to sieze his assailant and defend himself until aid came.—*Med. Times and Gaz.*, June 17, 1882.

M. Pasteur.—The Council of the Society of Arts of Great Britain have awarded the Albert Medal of the Society for the present year to M. Pasteur, Member of the Institute of France, for "his researches in connection with fermentation, the preservation of wines, and the propagation of zymotic diseases in silkworms and domestic animals, whereby the arts of wine making, silk production, and agriculture have been greatly benefited."

The President of the Royal Academy of Belgium has been invited by M. J. B. Dumas, Perpetual Secretary to the French Academy of Sciences, to join in the subscription organized by the members of various French learned bodies for a medal to be presented to M. Pasteur for his scientific discoveries.—*British Med. Journal*, June 24, 1882.

Prof. Nothnagel, of Jena, has been selected to fill the chair of Clinical Medicine and of Special Medical Pathology and Therapeutics at Vienna, made vacant by the death of Duchek.

Prof. Carl Schroeder, the Director of the Gynecological Clinic of Berlin, has been decorated by the King of Prussia, with the Cross of the third class of the Order of the Red Eagle.

Dr. Dujardin-Beaumetz has received the Chateauvillard Prize of 1500 francs for his "*Leçons de Clinique Therapeutique.*"

The Broca Subscription.—The sum subscribed to defray the expenses of a monument in honor of the late Paul Broca amounts to 22,449 francs.

Guiteaumania.—*The British Medical Journal* for June 24th contains a well-written editorial on Guiteau's insanity, from which we make the following extracts:

"Was there ever," asked Dr. William A. Hammond when recently addressing the New York Medico-Legal Society on the case of Guiteau, "was there ever a man whose whole career, from childhood to the present day, has afforded a more striking example of that form of mental derangement called reasoning mania?" and seeing that what Dr. Hammond calls reasoning mania is synonymous with what he might as correctly call arrant roguery, the answer which he anticipates and desires may be given to this question. That Guiteau has been an arrant rogue, or, according to this new self-contradictory euphemism, a reasoning maniac, from his youth up until now, will scarcely be denied by anyone who has glanced at the reports of his trial; and we fail, therefore, to perceive the necessity for the elaborate proof which Dr. Hammond adduces in support of this self-evident proposition. It may be well to examine Dr. Hammond's position, and inquire what justification he has for applying the term lunatic to the assassin of President Garfield.

We do not now enter upon the general question whether it is expedient to divide lunatics into two classes, one of which shall be amenable to penal discipline, and the other only to medical treatment, further than to say that to do so would be to run counter to all advances hitherto made in the medical jurisprudence of insanity, and to create difficulties greater than have yet been experienced in the administration of the law. Efforts have heretofore been directed to reconcile the legal definition of insanity with the scientific description of it; and the attempt to force these two asunder, to limit the former to a small group of idiots and raving madmen, and to extend the latter so that it shall include half the human race, can only end in inextricable confusion,

Now, what do all these evidences of insanity brought forward by Dr. Hammond amount to but the description of the career of an unscrupulous and sanctimonious adventurer? Are there not thousands of men in the United States and every civilized country whose lives, if carefully reviewed, would present as many mad points as that of Guiteau—mad points which make a specious show when brought together, but which are really of no account when scattered over long tracts of commonplace rational conduct? . . . Taking these proofs individually, there is not one of them that bears the stamp of madness; and, taking them collectively, they are incompatible with any theory of mental aberration. Insanity is often regarded as a lawless condition, of which anything and nothing may be equally predicated; for it seems to those who look upon it carelessly from afar to be a wild storm of thought, blowing where it listeth, and without centre or limitations. To those, however, who have studied it more closely and discerningly, there are revealed order in its ravages, and system in its cycles; and to them it becomes possible to say, in many instances, what course it will pursue, what features are characteristic of it, and what conjunctions are never witnessed in it. And skilled students of mental meteorology of this kind, who are free from personal bias and the thraldom of premature judgments in print, will certainly say that Guiteau's case, as described by Dr. Hammond, is not classifiable under any variety of insanity with which they are acquainted.

But Dr. Hammond's description of reasoning mania is not in conformity with medico-psychological experi-

ence on this side of the Atlantic. Such lunatics are not to be met with in asylums. They are a new discovery in the fauna of insanity in the United States; and we would suggest to Dr. Hammond that, as Guiteau is the most striking specimen of this kind of lunatic that has yet been discovered, he should substitute for the cumbersome and inconsistent name that he has adopted, the unmistakable designation of "Guiteaumania." We should then, with greater facility, be able to discuss with him the symptoms and medico-legal relations of this unique variety of mental alienation, as he would call it, or of moral turpitude, as we should prefer to designate it.

We have said that Guiteaumania is not recognized in Europe as a form of mental disease either involving irresponsibility or calling for curtailment of liberty or medical treatment. It may be admitted at once that Guiteau had an ill-balanced and depraved mind; but to this admission it must be added that he was not, in these respects, a whit worse off than three-fourths of the inmates of our convict prisons, who are notably infirm of purpose and inconsequential in thought, but who are nevertheless treated like accountable beings. The shrewdness and perspicacity which Guiteau displayed in his running accompaniment of interruptions throughout his trial, render it impossible to argue that his intellect is in any degree enfeebled. His power of apprehension and of forseeing the drift of any questions asked, was incontestably proved on innumerable occasions to be unusually acute; his memory was repeatedly shown to be tenacious and serviceable; and his judgment, when applied to the actions and motives of others, was often exhibited in a favorable light as regards its clearness and penetration. The anxiety which Guiteau displayed about his personal safety, and the precautions he took to secure it, are sufficient evidence that he is amenable to ordinary human motives; and the self-restraint which he more than once exercised when it suited his purpose to do so, betokened the possession of ample volitional power at his command. His crime was not a reckless and motiveless one, nor can it be said that it was prompted by any delusive belief. Of course, but few crimes have one sufficient motive; most are the resultants of several convergent mental forces: and so in Guiteau's case it may be impossible to put one's finger on any single spring of action, and say this impelled the fatal bullet; but still it may be safely averred that, in his itch for notoriety, his disappointments, his miscalculations, there is enough to account for his guilty performance without resorting to any theory of insanity in explanation of it.

NOTES AND QUERIES.

TREATMENT OF FRACTURE OF THE HUMERUS.

To the Editor of THE MEDICAL NEWS.

Dear Sir: In connection with the hypothetical case of fracture of the humerus, presented to the section on surgery of the American Medical Association (see THE MEDICAL NEWS, July 1, 1882, p. 24), by Dr. McLean and condemned by Dr. Sayre, allow me to report a case recently treated by myself with the best result attainable.

A boy aged ten years, healthy, broke the humerus by being thrown from a horse; the fracture was oblique and in the middle third near the junction with the upper third; the end of the bone was much displaced, with no, or but little, laceration of soft parts; having brought the parts into apposition, I applied a roller from phalanges to axilla; on this internally from axilla to condyle of humerus, I placed a double thickness of pasteboard (bonnet board), the same externally from acromion to condyle; this allowed free passive motion; the hand was placed in sling and arm fastened to the body by several turns of roller, passive motion, however, was used every two or three days. At the end of two weeks the splints were removed, the arm being kept in sling some time longer. The best result was attained at the least possible inconvenience to the patient, and I will pursue the same treatment of fracture of the middle third of the humerus in the future.

Very respectfully, etc.,

J. M. BERRIEN ROGERS, M.D.

CLARKSVILLE, IND., July 6, 1882.

THE POISONOUS ACTION OF SALIVA.

To the Editor of THE MEDICAL NEWS.

Dear Sir: In your issue of July 8, there is a communication from Dr. Geo. M. Sternberg respecting some remarks made by Dr. Formad at a meeting of the West Philadelphia Medical Society, published in the MEDICAL NEWS of May 27 (p. 585). Dr. Formad, in the course of those remarks, has also made a mistake with reference to the results obtained by me.

He says: "A student of mine, Mr. Claxton, made a number of experiments, and could not corroborate some of Dr. Sternberg's conclusions. *On the contrary, he found that any saliva, even that of animals, promptly killed those experimented upon.*"

Why Dr. Formad made this assertion, I cannot imagine, since the only salivas used by me were human and that of dogs dead of hydrophobia, and the latter only collaterally, as my investigations were wholly with respect to the former, *i. e.*, human saliva.

In order that Dr. Sternberg may see my views on this subject, I would refer him to my article in the *Philadelphia Medical Times*, of June 17, 1882, p. 627 *et seq.* He will find, I am gratified to state, that the results I have obtained accord, for the most part, with his.

Respectfully yours,

CHARLES CLAXTON, M.D.

ATLANTIC CITY, N. J., July 9, 1882.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 27 TO JULY 10, 1882.

By direction of the Secretary of War, the Medical Examining Board convened in New York City by S. O. No. 223, October 30, 1877, from A. G. O., is dissolved, to take effect June 30, 1882, and the following-named officers, now members of the Board, will report by letter to the Surgeon-General:

Major JOSEPH B. BROWN, Surgeon.
Major JOSEPH H. BILL, Surgeon.
Major CHARLES H. ALDEN, Surgeon.

—*S. O. 147, A. G. O., June 26, 1882.*

GARDNER, E. F. *Captain and Assistant Surgeon.*—Relieved from duty at Vancouver Barracks, Washington Territory, and assigned to duty as Post Surgeon at Fort Cœur d'Alene, Idaho.—*S. O. 83, Department of the Columbia, June 19, 1882.*

O'DONNOGHUE, F., *Captain and Medical Storekeeper.*—Died at New York City, June 29, 1882.

HEAD, JOHN F., *Lieutenant-Colonel and Surgeon.*—Granted leave of absence for fifteen days.—*S. O. 153, A. G. O., July 3, 1882.*

FORWOOD, WM. H., *Major and Surgeon.*—To report in person to the Lieutenant-General at Fort Washakie, Wyo., on or about July 23, 1882, for duty as Surgeon and Naturalist on a tour of inspection aud exploration to be made by the Secretary of War and the Lieutenant-General.—*S. O. 70, Department of the Platte, July 6, 1882.*

BARNETT, RICHARDS, *Captain and Assistant Surgeon.*—To accompany the Brigadier-General commanding on his journey to Forts Bridger, Wyo., and Thornburgh, Utah.—*S. O. 70, Department of the Platte, July 6, 1882.*

Under the provisions of Section 1 of the Act of Congress, approved June 30, 1882, the following-named officers are, by operation of law, this day retired from active service, viz.:

Brigadier-General JOSEPH K. BARNES, Surgeon-General.
Colonel JOHN. M. CUYLER, Surgeon.
Colonel WILLIAM S. KING, Surgeon.
Lieutenant-Colonel JAMES SIMONS, Surgeon.

—*S. O. 151, A. G. O., June 30, 1882.*

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLI. SATURDAY, JULY 22, 1882. No. 4.

ORIGINAL LECTURES.

CLINICAL REMARKS ON SCARLET FEVER.

Delivered in the New York Foundling Asylum, April 22, 1882,

BY PROF. J. LEWIS SMITH, M.D.

(*Concluded from page 59.*)

IT will be necessary in the brief time allowed for a clinical lecture to pass over or only briefly allude to some subjects of interest relating to scarlet fever. One is the incubative period, which varies from a few hours to nearly a week, being, like that of diphtheria, different in different cases. Rarely there is apparently no incubation. Dr. D. W. Richardson (Clinical Essays, 1861, vol. i. p. 94) states his own experience. He had applied his ear to the chest of a patient suffering from scarlet fever, and was conscious of a peculiar odor emitted by the patient. He was immediately nauseated and chilly, and from that moment he dated the beginning of an attack of scarlet fever.

In the Transactions of the Clinical Society, London, vol. xi., 1878, C. Murchison gives the statistics of seventy-five cases showing the incubative period; as follows:

In	4	cases	it was not more than	24	hours.
"	2	"	" "	30	"
"	3	"	" "	36	"
"	4	"	" "	40	"
"	1	"	" "	41	"
"	4	"	" "	48	"
"	1	"	" "	54	"
"	1	"	" "	2½	days.
"	2	"	" "	3	"
"	1	"	" "	3½	"

In 31 other cases it was within 4 days, the time not being more accurately ascertained.

In	2	cases	the period did not exceed	4½	days.
"	17	"	" "	5	"
"	2	"	" "	6	"

Total number of cases 75.

In three cases Murchison believes that the time of infection was precisely fixed at 36 hours, 3 days, and 4½ days.

Passing over the fact that scarlatina is less contagious than most of the other eruptive fevers, probably from the fixity and feeble volatility of its specific principle, so that Dr. Billington (N. Y. *Medical Record*, March 23, 1878) found that in twenty-six families, in which ninety children were exposed to the malady, only forty-three, or about 50 per cent., contracted it; passing over the fact that its area of contagiousness is small, so that effectual quarantining in a domicile is easy if all intercourse with the infected room be prevented; passing over the fact that from unknown causes the type of scarlet fever varies in different seasons, varies beyond that of any other infectious malady except diphtheria, we come now to an interesting subject to which I wish to call your attention—one not so generally known as those to which I have alluded. The fact has long been known that after surgical operations, and even sometimes in surgical cases not requiring operative measures, a scarlatiniform efflorescence appears upon the surface of the whole, or nearly the whole, body, and remains for several days. Cases observed have been adults as well as children. Sir James Paget and other distinguished London surgeons regard this disease as true scarlet fever in most instances, and they designate it surgical scarlatina. They believe that there has been a previous exposure to the scarlatinous poison, and that the surgical ailment or operation furnishes favorable conditions for the occurrence of scarlet fever; so that the previous reception into the system of the scarlatinous poison, which probably would have been without result in ordinary health, causes an outbreak of this malady. The following were cases of the kind alluded to, published in *Guy's Hospital Reports* for 1879, by H. G. House, M. S.:

On March 15, 1878, Mr. Jacobson performed osteotomy in Guy's Hospital upon a child suffering from extreme rachitis. The operation was followed by a moderate febrile movement (100° to 101°), and after three days by the appearance of a roseoloid rash with sore throat and the strawberry tongue. The operation was made under carbolic acid spray, with all the details of antiseptic treatment. The rash soon faded, the temperature fell, and the child temporarily separated from the other patients, from the suspicion that her disease was scarlet fever, was brought back to the ward. The skin desquamated, and on April 1st abundant albumen was found in her urine. The result was favorable. Three months previously the same operation had been performed on the other leg with no unfavorable symptoms.

On April 5, twenty-one days after the performance of this operation, a lipoma was removed from another patient, aged 21 years. The following day the temperature rose to 101°, and remained at that till April 8, when it suddenly increased to 103.6°, and a rose-rash occurred over the body, with sore throat. On April 9, Mr. House excised the elbow-joint of a girl of 16 years, having "pulpy disease;" on the 10th her temperature began to increase, and on the 11th reached 105.8°. Toward evening a roseoloid eruption occurred over her body. On April 12, Mr. H. excised a fibroid bursa patellæ from a woman of 29 years. On the following day her temperature was 99°, but on the 14th it rose to 100°, and on the evening of the 15th she had rigors and headache. On April 16 her temperature was 102.5°, and a roseoloid eruption occurred over the face and chest. The surgeons now perceived that an epidemic of the so-called surgical scarlatina was occurring so as to justify the postponement of other operations.

In the same volume, Mr. James F. Goodhart gives the histories of nearly thirty cases of this disease occurring during a series of years in Guy's Hospital. The patients were chiefly children having the most diverse surgical ailments; among which may be mentioned hip disease with abscess, genu-valgum without operation, necrosis of femur, hydrocele with explorative operation, a scald, a sinus over the great trochanter, spinal disease with abscess. In cases operated on the intervals between the operations and the occurrence of the efflorescence varied from two days to more than two weeks. Mr. Goodhart, after a careful examination of the records of these cases, formed the opinion that the disease was for the most part true scarlet fever, especially as a considerable proportion of them occurred in groups, and there was a known exposure of some of the patients to children admitted with the sequelæ of scarlet fever.

In the *British Med. Journ.*, January, 1879, Mr. George May, Jr., reported a case of surgical efflorescence, which appears to have been true scarlet fever.

A child was operated on for the radical cure of hernia on December 4th. Towards the close of the same day he became restless, vomited, and on the day following his pulse had risen to 136. Forty-eight hours after the operation a rash appeared on the chest and arms, the abdomen became tense and painful, and on the following day he died.

Those who have reported cases of this form of efflorescence have for the most part neglected to state whether the patients had had scarlet fever previously; an important omission, since the differential diagnosis is so difficult between septic and scarlatinous efflorescence; but there can be little doubt that surgical maladies of a certain kind, especially traumatism, do produce a state of system which predisposes to scarlet fever; so that this class of patients are very liable to contract this disease when exposed to the scarlatinous poison; therefore a considerable proportion of the reported cases of surgical scarlatina were apparently genuine examples of this disease, but in, I think, at least an equal number the efflorescence was not scarlatinous, but septic. Moreover, when consultations were held opinions were very apt to differ, some believing the disease septicæmia, others scarlatina. In certain of the cases it is stated that the fauces presented their normal appearance. Now, faucial redness may or may not occur in septicæmia, but I do not recollect ever finding it absent in scarlet fever. A normal state of the fauces, therefore, in surgical cases attended by efflorescence, shows that the rash has a septic, and not scarlatinous, cause. Again, when the rash appears irregularly upon the surface, and fades away in two or three days with abatement of the fever, and the conditions of septic absorption are present, the efflorescence is probably septicæmic.

There can be little doubt that the rash was septic in the following cases: A child of five years (*British Med. Journ.*, February 15, 1879) had inflammation of the lymphatic glands in the groin, which suppurated. At the time when the abscess was fully developed, a rash appeared over the entire body paler than that of ordinary scarlet fever. It consisted of red points with pale spaces between them: temperature never above 99°, no sore-throat, nor desquamation of cuticle. Her sickness could not be traced to any exposure, and no child exposed to her contracted scarlatina. In the *British Med. Journal*, January 4, 1879, Mr. J. Braxton Hicks relates the case of his son, who, while attending school at Reading, was seized with a severe attack of pyrexia, accompanied on the second day by delirium and the occurrence of a rash like scarlet fever over the entire surface. He had no decided redness of the fauces, though they were perhaps slightly flushed. The right buttock was swollen from inflammation, and a large deep abscess formed near the tuberosity of the ischium. When the delirium abated the boy stated that he was standing the day before the fever began with his legs far apart, when a school-fellow stretched them farther, by suddenly pulling upon one of them. The rash, which was nearly universal, lasted three days, and disappeared without desquamation. No case of scarlet fever occurred in the school before or afterwards. In the same volume of the *British Med. Journ.*, Surgeon Frolliott, of the East India service, relates the case of a private, aged 23 years, and three years in India, who, when on duty in the Punjab, was severely injured by the explosion of an Afghan powder magazine. The accident occurred December 21, 1878. On December 25th a bright scarlet rash appeared upon the abdomen and spread over the entire body. On the following day the eruption was very vivid like a boiled lobster and lasted for five days. The temperature, which at the beginning had been 101°, abated to the normal after the rash appeared, no soreness of the throat nor redness of the buccal surfaces occurred, but the cuticle desquamated even from the palms of the hands and soles of the feet.

Scarlet fever is so rare in India that, after twelve years' service, Surgeon F. had not heard of one case among the resident Europeans or natives, and no case had occurred among the troops. We may, therefore, I think, safely conclude from the examination of published cases that certain forms of surgical disease, especially traumatism, do predispose to scarlet fever both in children and adults, so that if they happen to receive the contagium of this malady from some exposure to it, they are more likely to suffer from an outbreak of scarlatina than when in a previously healthy state. On the other hand, a sufficient number of cases in medical literature establish the fact that a scarlatiniform efflorescence of a septicæmic nature occasionally occurs in surgical patients sustaining no relationship with scarlet fever, and probably this form of efflorescence is as common as the scarlatinous in surgical diseases. These remarks are also applicable to obstetrical as well as surgical patients. Women after parturition appear to return to the state of childhood as regards liability to contract certain diseases, among which we may mention scarlet fever, so that it behooves the physician to be cautious, if he be engaged in midwifery practice while attending scarlet fever, that he do not communicate this disease to his lying-in patients. In the latter part of May, of the present year, a woman was admitted into the waiting-room connected with the maternity wards of the New York Infant Asylum from a family where scarlet fever was prevailing. On May 28th a primipara, who occupied a cot near her, was removed into the maternity wards and gave birth to a child. She was feverish from the time of her confinement, and on the third day the scarlatinous rash appeared over her entire body. On the sixth day it faded, and was followed by desquamation. She had some redness of the fauces. A similar case occurred recently in the New York Nursery and Child's Hospital. But a rash of a scarlatinous appearance occuring three or four days after parturition, while it may be due to scarlet fever, is more apt, I think, to have a septicæmic cause, resulting from decomposition of a blood-clot or a fragment of placenta. The following was a case in point, which came under my notice: Mrs. ——, aged 22 years, gave birth to her second child after normal labor on March 21, 1882. On March 23 she was restless, and complained of pain in both iliac regions; temperature in mouth 103⅓°; pulse 132; no cough. She was ordered quinia in 5 gr. doses, and salicylate of sodium in 15 gr. doses every four hours, with a pill containing one grain of opium and two of camphor between the doses. On March 25, a rash, like that of scarlet fever, appeared over her hands, forearms, hips, entire back, and the lower extremities as far as the knees; temperature 102°. March 27, morning temperature 101½°; evening temperature under tongue 104°; efflorescence over entire body except the face. The rash abated in a few days, the temperature fell, and convalescence seemed established. She had begun to sit in an easy chair, when, about two weeks after her confinement, on making an unusual exertion, she suddenly became faint, and expired before the physician could arrive. Possibly the efflorescence was due to the medicine, but it seems more probable that it was septic. That it was in all probability not scarlatinous, we may infer from the absence of faucial symptoms, and from the fact that the older child of the patient, aged two years, constantly exposed to her, did not contract scarlet fever.

Sometimes it is not difficult to make the differential diagnosis from the symptoms alone, between the rash of septic and that of scarlatinous blood poisoning, as

in the case of traumatism in India which I have related; in this case the fever abated while the rash was distinct and full, which is never the case with scarlet fever.

It will be necessary for want of time, after these general remarks, to postpone till next week the consideration of certain subjects which the case before us suggests, one of the most interesting of which is the complication of scarlet fever by diphtheria. These two maladies coexisted in the patient whose history you have heard, and whose viscera you have had an opportunity to inspect at the autopsy.

ORIGINAL ARTICLES.

IS TUBERCULOSIS A PARASITIC DISEASE?

SECOND PAPER.

BY GEORGE M. STERNBERG, M.D.,
SURGEON, U. S. A.

DOUBTLESS many of those who have read Koch's report of his experimental inquiry, or the full abstracts of the same which have appeared in THE MEDICAL NEWS and the *American Journal of the Medical Sciences*, are of the opinion that the question which serves as a title for my paper, is already answered in the affirmative. Certainly the evidence as presented seems very convincing. But, as pointed out in my first paper, independent confirmation is especially necessary in this disease because tuberculosis, or at least a pseudo-tuberculosis not easily distinguished from the genuine, may be produced in rabbits and in Guinea-pigs by inoculating them with *non*-tubercular material; and because competent observers, Klebs, Toussaint, who have undertaken similar investigations, have announced the discovery of organisms in tubercular neoplasms which differ morphologically from the bacillus of Koch.

Negative evidence is rarely published, as it does not directly promote the advancement of science, and but little credit is to be gained by the investigator who has only negative results to record. They have, however, their value when the search has been thorough and conscientious, and it would be well if they were more generally published. The writer, although long since a convert to the germ-theory on theoretical grounds, has several times found himself compelled to report negative results where he had looked with considerable confidence for a discovery or for confirmation of a discovery already announced. At the present writing the same is true as regards the bacillus of tuberculosis, and although my observations are not sufficiently numerous to have great weight as opposed to the facts reported by Koch, they have a certain value, inasmuch as they show that *the bacillus is not present in all cases of tuberculosis;* and because they indicate a possibility of error on the part of observers not accustomed to the study of bacterial organisms and to the use of high powers, who may attempt to verify the discovery of Koch. This possibility arises from the fact that in preparations made strictly in accordance with Koch's method, the contour of the nuclei of cells often simulates so closely the appearance of bacilli contained in the cell, that it requires an experienced eye and careful focusing to detect the deception, and to the further fact that Koch's staining fluid is a medium in which bacteria may develop abundantly. This I discovered accidentally by leaving a thin section of lung (from a fragment preserved in alcohol) for several days in a shallow *covered* vessel immersed in the aniline blue solution prepared according to Koch's formula. Upon examining the section at the expiration of this time, I found that it was surrounded by a multitude of bacteria of various forms, including bacilli, that answered very well so far as form is concerned to the description given by Koch of his bacilli of tuberculosis, but which did not correspond with these in retaining their blue color when treated with visuvine. That these were developed in the staining fluid was proved by the fact that they were found in abundance upon the bottom of the porcelain dish in which this was contained, and that other sections from the same dish previously examined (after twenty-four hours immersion in the fluid) were quite free from bacteria. There is nothing surprising in the development of a variety of bacterial organisms in a slightly alkaline fluid containing fragments of animal tissue, and, *a priori*, it would hardly be expected that an alcoholic solution of methyline blue in the proportion of one-half per cent. would prevent such development. As, however, this development did not occur within twenty-four hours, the time given by Koch for the staining process, it may be that no mistakes are likely to arise from this source. On the other hand, the possibility of such a mistake should be borne in mind, especially in climates where, owing to a higher temperature, a more rapid development of bacteria would be likely to occur. My own accidental experiment was made at a time when the thermometer ranged constantly below 60° Fah., and has since been repeated with a like result.

Lest it may be thought from what I have already said, and from what follows, that I am attempting to bring discredit upon the *observations* of Koch, I desire to say that I have the greatest respect for the scientific acumen and technical skill which he has displayed in this and in previous investigations, and cannot doubt that he has seen what he describes, and has faithfully reported his observations. Believing this, I look for confirmation later when I obtain *the right kind of material;* for, from a review of the experimental evidence relating to tuberculosis, I am inclined to think that we will find eventually that there are two forms distinguished by the presence or absence of parasitic organisms, and by being infectious or non-infectious as the result of this circumstance.

The main object of, and it may be the only excuse for, the present paper, is to point out the necessity of exercising a spirit of scientific conservatism in judging of the value of the experimental evidence which is now being offered from many quarters in favor of the germ-theory of disease; and in view of the importance of the subject, I will perhaps be pardoned for making a slight discursion before recording the results of my observations as regards tuberculosis.

We are in even greater danger of being misled by the statements of those who claim to confirm, or by a second-hand report of experimental researches, than by the detailed report of an original investigation; for, in the latter case, the author generally gives a minute account of his methods and observations, while in the former we often have only the bare announcement without any data from which we can judge of the skill and care exercised by the one who confirms. And, in second-hand reports it unfortunately sometimes occurs that more is claimed than the original investigator felt justified in claiming, and where he had exercised a proper conservatism, his reporter may not only fail entirely in doing so, but may misquote the facts which he has recorded. Thus, in a recent address before the American Medical Association, I find the following statement:

"In 1879, Prof. Tommasi-Crudeli, of Rome, and Prof. Klebs discovered a parasite in the soil of malarious districts. The parasite was never found where malaria is unknown. The parasites were invariably found in the blood of persons suffering from malarial disease, but never in those free from such disease. Blood drawn from the veins of persons affected with malaria, and injected into the subcutaneous tissues of dogs, reproduces the disease in these animals."

All this seems very definite and conclusive, but in the original report of Klebs and Tommasi-Crudeli, I do not find a word about their having found the parasite in the blood of persons suffering from malarial disease, nor any record of experiments in which blood drawn from the veins of persons affected with malaria, and injected into the subcutaneous tissues of dogs, reproduced the disease in these animals. On the other hand, their experiments were made upon rabbits, and their announcement of the discovery of a *bacillus malariæ* rested entirely upon these experiments. It is true that Cuboni and Marchiafara subsequently announced the discovery of similar bacilli in the blood of man, but who has confirmed Cuboni and Marchiafara? The three cases of pernicious fever, in which the last-named gentleman found bacilli in the blood, the lymph, the spleen, and the marrow of the bones cannot count for much, in the absence of evidence showing that these could not have been developed *post-mortem*, for it must be borne in mind that in the latitude of Rome the development in the blood and tissues of a variety of bacterial organisms which habitually infest the alimentary canal, occurs very shortly after death, while in Catholic countries it is usually difficult to obtain an early post-mortem examination.

Malarial fevers prevail so extensively, and so many physicians are provided with microscopes, that it would seem as if the bacillus of Klebs and Tommasi-Crudeli should now be pretty well known to the profession, not only by report, but also by personal inspection, if it is truly the cause of malarial infection. As time passes this negative unrecorded evidence must acquire a constantly increasing value, for we can scarcely doubt that positive confirmatory results would be promptly heralded in the medical journals. But in addition to these inferred unrecorded results, we have the fact, in the case of malarial fever, that several other observers have described a different organism believed by them to bear the identical relation to the etiology of malarial fever ascribed by Klebs and Tommasi-Crudeli to their bacillus. The inference is evidently legitimate that these observers have not seen the bacillus in the course of their more or less extended investigations. Thus Laveran[1] describes an amœba-like organism, called by him *Oscillaria malariæ*, found only in the blood of malarial fever patients, and Richard,[2] in a recent communication to the French Academy, confirms this discovery.

It is not my object at present to weigh the evidence for or against either of these alleged discoveries, but simply to point out that each observer furnishes negative evidence which must be taken into account in considering the claims of the other. I may say, however, that in this case it is easier to believe that Klebs and others—myself among the number—have overlooked a parasite resembling so closely the leucocytes of healthy blood, as does that described by Laveran, than that Laveran, Roberts, Sternberg, and many others have overlooked an organism in the blood as easy of detection as the bacillus of Klebs and Tommasi should be from their description of it.

This argument does not apply with the same force to the bacillus of Koch, for according to his account a special method of staining is necessary in order to demonstrate it. We are not, therefore, justified in assuming the absence of this bacillus in the numerous preparations examined by Toussaint, for example, who has been for some time engaged in similar investigations. But what shall we say of the failure of Koch to find, or at least to describe, the micrococcus of Toussaint? The last-named observer has spent much time in the study of infectious diseases, and enjoys an excellent scientific reputation; it would, therefore, be difficult to say that the recorded observations of one or the other of these *savants* are worthy of the greater credence. All that we can say is, wait and see. Koch has fully described his method; there is no lack of observers competent to apply it, and material is abundant, so that the case of *bacillus tuberculosis* having been brought to trial in open court, we may confidently anticipate a verdict within a reasonable time. As already indicated, the object of the digression which I have permitted myself to make has been to impress upon the jury the importance of caution and scientific conservatism in weighing the evidence.

The material which I have thus far examined has come from the City Hospital, San Francisco, and has been furnished me by my friend, Prof. Hirschfelder, to whom I am also indebted for a supply of methyl blue and of visuvine. This material consists of samples of sputum from four consumptive patients in Dr. Hirschfelder's wards, obtained May 25, and two additional samples, obtained May 30; a fragment of lung, studded with tubercular nodules—

[1] Description of a new parasite found in the blood of patients attacked with malarial fever. Baillière and Fils, Paris, 1881.

[2] Comptes Rendu, Acad. des Sciences, xciv. p. 496.

cheesy—and including a portion of the walls of a cavity, obtained June 2, and a similar specimen from a second case, obtained June 19. In both of these specimens, and especially in the second, many of the cheesy masses had a dark color, due to the presence of innumerable amorphous granules (carbon?), which were opaque, and varied in size from that of the smallest micrococcus to angular or rounded fragments, one-fifth the diameter of a red blood-corpuscle. These specimens were obtained from the dead-house, and were not accompanied with histories of the cases, which were not from Dr. Hirschfelder's wards.

The samples of sputum obtained May 25, were examined the same day, with the following result: The examination was made with a Spencer's $\frac{1}{10}$-inch and a Zeiss' $\frac{1}{18}$-inch homogeneous immersion objective. The last-named objective, with a Tolles's amplifier in the tube of the microscope, and a medium ocular, gave me an amplification of 1500 diameters, with admirable definition. Illumination was effected by the use of a $\frac{1}{6}$-inch objective of Zeiss as an achromatic condenser, and the observations were mostly made by daylight.

Not having yet been able to procure a supply of visuvine, I could not apply Koch's test for the tubercular bacilli to the samples of sputum first examined; but as the specimens were stained with methyl blue, the bacilli should have been seen if present.

Results of Examination.—Specimen No. 1 contains numerous fatty pus-cells, much free granular matter, elastic fibres from disorganized lung tissue, a few red blood-corpuscles, rod-bacteria (*B. termo*), and micrococci in pairs, in chains, and in groups of four. No. 2 contains numerous pus-cells, the nuclei deeply stained with the methyl blue, and rod-bacteria solitary and in zoöglœa masses. No. 3 contains great numbers of micrococci in chains and in zoöglœa masses, and a few rod-bacteria. No. 4 contains fatty pus-cells, granular matter and numerous bacilli. This preliminary examination showed me that the sputa of consumptives contains in abundance the bacteria which constantly infect the healthy human mouth; but I was not able to recognize any form with which I was not already familiar, and the bacilli, bacteria, and micrococci referred to in my notes correspond morphologically with those shown in my photo-micrographs (Figs. 3, 4, and 6, plate xii.), which illustrate a paper read last summer before the American Association for Advancement of Science, and published in "Studies from the Biological Laboratory of Johns Hopkins University."[1]

Not having recognized Koch's bacillus among the familiar forms present in these samples of sputum, I requested Dr. Hirschfelder to obtain for me some additional samples, collected with special care, the patient being requested to discharge the material coughed up from the lungs into a clean, wide-mouthed bottle, endeavoring, as far as possible, to exclude the buccal secretions.

[1] A contribution to the study of the bacterial organisms commonly found upon exposed mucous surfaces and in the alimentary canal of healthy individuals. *L. c.*, vol. ii., No. 2, pp. 157–181.

It is evident that no amount of care can entirely prevent the inoculation of such a mass from the lungs by the bacterial organisms constantly present in the mouth, and but little time would be required for the multiplication of these to such an extent that the whole mass would be infected. This, and the further possibility that multiplication of the organisms contained in the specimen may occur in the staining fluid, should be borne in mind by those who examine sputa with a view to confirming Koch's discovery. The last-named source of error will, however, probably be avoided if Koch's method is strictly followed, and the thin layer of material attached to a cover-glass is exposed to a temperature of 120° to 130° C. for from two to ten minutes.

Examination of Sputa obtained May 30.—Sample No. 1 contains an abundance of pus-cells, a few red blood-corpuscles, epithelium from the mouth and numerous bacteria—micrococci and bacilli—like those found in normal saliva. No. 2 contains pus-cells, epithelium from the mouth, *Bacterium termo*, *Leptothrix buccalis*, micrococci in chains and zoöglœa masses, and bacilli, all similar to those heretofore described. Having obtained a supply of visuvine, staining by Koch's method was carefully and repeatedly tried, but without result, so far as the demonstration of his bacilli was concerned. I also made numerous experiments to ascertain whether any of the bacteria present in normal saliva would retain the blue color given by the methyl blue staining solution when treated with visuvine. The result was negative, but I must again warn the novice that there is liability to error in the application of this test, as bacilli and other forms of bacteria deeply stained by the visuvine *appear blue when a little out of focus*, and inexperience in observing these minute objects, a lively imagination, or *defective color sense*, might lead to mistake. Especially is this liable to occur if one not skilled in the use of the microscope attempts to follow the directions given by Koch with reference to illumination, in his work on "Traumatic Infectious Diseases." According to this method, stained bacteria are to be distinguished in the tissues by moving the achromatic condenser forward, past the point where the best definition is secured, so as to obtain a color-picture, the details of structure being obscured by this procedure, while colored objects are brought out in strong relief. Having already been more prolix than I at first intended, I will cut this paper short by saying that I have made numerous sections from the two specimens of tuberculous lungs obtained for me by Dr. Hirschfelder, that I have stained and mounted these according to Koch's directions, and have carefully examined them without having been able to find Koch's bacilli.

It is too soon to know the result of my inoculation experiments in rabbits, but these will be duly reported when completed, together with any additional observations which I may have the opportunity of making upon fresh material.

THE ACTION OF ERGOT IN A CASE OF DIABETES MELLITUS.

BY E. F. TIEDEMANN, M.D.,
OF O'FALLON, ILL.

SHORTLY after reading Prof. Da Costa's article in THE MEDICAL NEWS of January 7th, on the ergot treatment of diabetes insipidus, a case of diabetes mellitus came under my care; and then the thought entered my mind that ergot might be beneficial in the latter as well as in the former disease. The case was a desperate one, and I determined to make the experiment. The result was so surprisingly good that I am induced to think the case worthy of publication, and hope that ergot may be tried by others and its true value in diabetes mellitus established. I think it very probable that many cases of diabetes go on unrecognized for a long time, especially in cases occurring in the less intelligent classes; and for this reason I give the history of the case in detail.

On Jan. 31st, the wife of a farmer came to me to get medicine for her husband, J. S., a German, aged 54. From her statements I judged the case to be one of malarial intoxication, with gastric and hepatic disturbance, and prescribed accordingly.

On Feb. 1st, I was called to see him, as he had not improved. I found him in bed, pale and emaciated, and in a very weak condition. Though a man of the average intelligence of his class, he appeared dull, and I had considerable difficulty in obtaining his history. He has never been sick, with the exception of long-continued malarial fever in the years 1876–'78. Some few months ago he began to feel weak in his legs, was easily tired, had a ravenous appetite, but felt no pain or other inconvenience. Complains chiefly of great weakness, thirst, bad taste in his mouth, which is dry; his gums bleed easily. Tongue fissured; red and dry at the tip and edges, thickly covered with a yellowish fur posteriorly. His appetite is failing, he has eructations from his stomach, has vomited once to-day, for the first time, and has other dyspeptic symptoms; his bowels are constipated. Skin pale, cool, and dry; suffers much from itching, especially on his thighs, legs, and back; states that some slight bruises and scratches on his hand suppurated, extended considerably, and were a long time in healing. Has no pain in his back, nor tenderness on pressure there; states that his urine is "quite clear." Unfortunately, I forgot to ask him about the quantity of urine passed. A careful physical examination did not reveal disease anywhere. He did not volunteer any information, and his mental processes seemed to be carried on slowly. I was not at all satisfied as to the nature of his disease, producing so much exhaustion. His pulse was 76, moderately strong and regular.

Knowing that for some time he had been living on salt pork and other coarse food, I directed a light diet, with plenty of milk, and gave him a purgative and some bismuth and pepsin. I asked to be informed of his condition next day.

February 2.—His wife informed me in the morning that he had been constantly growing weaker since I saw him, and was worse in every respect. I put several questions to her, and, suspecting Bright's disease, asked how much water he passed. I was astonished to hear that he would rise as often as eight times a night to urinate; that an ordinary chamber-vessel not being large enough to hold the amount, he used a bucket holding two gallons, which was always about half full when emptied in the morning. When I asked her why she had not told me that before, she said she thought it was quite natural, as he drank water every time he rose, sometimes as much as a quart at a time. I asked her to measure carefully the amount he passed after she returned home, and to send me a specimen.

3d.—The amount of urine passed in twenty-one hours was *eighteen pints*, which would be over *twenty pints* in twenty-four hours. The urine is pale, of a greenish-yellow hue, semi-transparent. The specimen examined was taken from the whole amount passed, had a sp. gr. of 1034, and contained sugar in great amount. He was by this time in an alarmingly weak condition, brought about to some extent, no doubt, by the milk I had ordered. I put him immediately on half-drachm doses of fluid extract of ergot, with 15 grains salicylic acid, 20 grains sodium bicarbonate, and 10 minims of tr. opii, every four hours, and ordered the usual strict diet of proteids and fats.

4th.—The result of this treatment far exceeded my expectations. After he had taken four doses the amount of urine passed in twenty-four hours had fallen from *twenty* to *eight pints*. His thirst was lessened very much, he had risen but three times during the night to urinate, and felt stronger. I had feared that the specific gravity would rise very much, and was surprised to find that it was only 1036.

I now ascertained that he had been feeling weak since last fall, about September; that the thirst and feeling of weariness came on gradually and increased slowly. He stated that for some months he had been troubled with occasional numbness of his legs, and formication, a feeling, as he expressed it, of bugs and ants crawling on his legs. His sight had become much less acute, and his memory was failing. His gait was uncertain, especially in the dark or when rising from a lying position. There is no history of syphilis, traumatism, sudden nervous shock, or mental strain. He had never heard of such a disease, his parents lived to be quite old, and he has three brothers living older than himself. He had since early fall been drinking great quantities of cider, and when his excessive thirst commenced he probably drank still more. This habit is mentioned by Niemeyer as one of the alleged causes of diabetes mellitus.

The above-mentioned nervous phenomena were the only ones I could ascertain, and they led me to consider the disease in his case to be of nervous origin. He had never suffered from neuralgia or disturbed action of the heart; I could find no symptoms referable to vaso-motor disturbance such as flushes of heat or cold, cold feet, etc. The numbness, formication, and weary feeling, were equally severe on both sides of the body. He did not feel

any soreness in the muscles of his legs, but it was probably present and included in the word "weariness;" he is not very sensitive to pain.

5th.—Passed six pints of urine. Increased dose of ergot to one drachm every four hours. Rises but once during the night, and is gaining strength; sleeps well; bad taste in mouth disappearing; itching and formication much less.

7th.—Five and a half pints; patient is out of bed the greater part of the day.

8th.—Six pints, sp. gr. 1033. He had not eaten any sugar-producing food, with the exception of a very small piece of bread at his meals, and yet the sugar was present in almost the same proportion as the day after he ceased eating farinaceous food, showing that the disease had reached the stage when sugar is manufactured of animal food. The constipation is very obstinate, and is only overcome by large doses of salts.

12th.—Urine six pints, of sp. gr. 1032. Owing to continued constipation, I discontinued the opium and substituted potassium bromide with a few grains of potass. iodide.

15th.—Five and a half pints, sp. gr. 1038. Is feeling worse, complains of sweet taste in his mouth again, and has more thirst. Added opium again.

17th.—Four pints, sp. gr. 1034.

18th.—The daily amount of urine has fallen to *two pints*, sp. gr. 1039. I attributed this fall to the ergot, and directed all medicine stopped for twelve hours, and afterwards directed it to only be taken three times a day.

19th.—Three pints.

21st.—Five pints, sp. gr. 1033.

22d.—After eating farinaceous food, amount of urine rose to six pints, sp. gr. 1038. Patient found very soon that farinaceous food was harmful to him, increasing his thirst and producing a sweetish taste in his mouth.

March 2d.—Five pints, sp. gr. 1030. Patient walked to my office, a distance of two miles, with ease. General condition very much improved, appetite good, feels quite well, and is gaining flesh and strength. Reduced ergot to 30 minims thrice daily, and substituted ½ grain codeia for the opium; discontinued sodium salicylate entirely, but continued the alkali in 10 grain doses, three times a day.

6th.—Four pints, sp. gr. 1032. Directed cod-liver oil, and $\frac{1}{50}$ gr. phosphorus with each dose; increased codeia to gr. j, three times a day.

26th.—Five pints, sp. gr. 1027. Discontinued phosphorus.

April 6th.—Patient can work as well as formerly, and has no inconvenience. Sp. gr. varies from 1027 to 1030. Eats bread at every meal. Bowels regular, moving daily. His appetite continues very good. Takes the medicine but twice daily, and sometimes even goes without it for several days. On this account, increased ergot to 45 minims, and ordered in addition strychnia, iron, and quinia.

13th.—Patient continues well, doing hard work, as ploughing, hauling wood, etc., daily. The feeling of weakness in his legs is much diminished. The itching and the nervous symptoms are all gone. His sight has improved.

Of course, I do not claim that he is cured; I doubt if the disease is ever cured when it reaches the later stage. But to keep the disease in check, and prevent the excessive formation of sugar, ergot, I think, will in some cases be a useful means, especially when combined with opium, or, better, codeia.

What the lesion is in this case, I do not know; but it is probably one affecting, primarily or secondarily, a portion of the cerebellum and fourth ventricle. It is difficult to conceive how disease in the medulla oblongata can exist *primarily* and involve *only* the vaso-motor centre, or even only those portions that are known as the diabetic and the polyuric centres. And again it is supposed that the diabetic centre alone can be involved, or the polyuric alone. We meet diabetes mellitus without polyuria, diabetes insipidus without glycosuria, and finally, as in the foregoing case, diabetes mellitus with enormous polyuria, apparently a mixture of the two diseases, or rather a disease—whether actually situated in the floor of the fourth ventricle, or occupying some other spot connected with it—that affects both centres.

Da Costa thinks that the remedial action of ergot, in his cases of diabetes insipidus, consisted in capillary contraction in the nervous centres, meaning—as I take it—that portion of the fourth ventricle, irritation of which produces polyuria. It seems reasonable to expect that in cases of diabetes mellitus of nervous origin, excepting, of course, tumors or destructive changes, ergot might be successful in some cases of diabetes mellitus, as well as in diabetes insipidus. I think that my case is at least another confirmation of Da Costa's results.

The sudden fall from twenty to eight pints in twenty-four hours cannot be attributed to anything but the ergot and modified diet, and, in part, to the opium. The fall from eight to four, and even two, pints in two weeks, can, I think, be attributed *only* to the ergot, as he was under the modified diet all the time.

I do not think that the sodium salicylate produced any benefit, for when left off, after four weeks' use, improvement went on steadily, which was not the case when the opium or the ergot was withheld. The good results claimed by many observers to have followed the use of salicylic acid, suggest the thought to me that there may be a class of cases of diabetes mellitus in which a process of fermentation is going on excessively somewhere. The fact that other fermentation-checking drugs, as carbolic acid, creasote, iodine, quinia, lactic acid, and glycerine, have been highly recommended by many authorities, may lend some little support to this idea.

The opium was undoubtedly of great benefit, not only in allaying thirst, but in checking the production of sugar. This is shown by the observation that the specific gravity rose from 1032 to 1038 when the opium was withheld. He eat no more bread in these days than previously. The rise of the specific gravity to 1039, when the urine fell to two pints, can be explained by the great concentration.

Some of the nervous symptoms observed reminded

me of locomotor ataxia, with which, indeed, as regards progressiveness, diabetes has been compared. But the inco-ordination observed was probably due to trouble in the cerebellum, which is supposed to be a great factor in co-ordination, and *polyuria* is mentioned (Eckhard) as the result of injury to the cerebellum.

The effect of eating sugar in increasing thirst, and consequently augmenting the amount of urine, is of interest. It is observed in healthy persons eating large quantities of sugar. It shows that in diabetes mellitus there is, besides the frequent implication of the polyuric centre, another factor aiding to bring on polyuria. In the first case, the thirst is due to large losses of water; in the second, the sugar in the blood causes increased absorption of water from the tissues.

A rough estimate of the solids contained in the daily quantities of urine mentioned in the history of the case, and the comparison of these amounts with the quantities of urine in which they were contained, shows plainly *that the more urine was voided, the greater was the loss of solids*, consisting chiefly of sugar and urea. From this fact we can deduce a lesson of great practical value—*if we can lessen the polyuria, we can lessen the loss of sugar proportionately.* It also teaches us to restrict the amount of fluids consumed by the patient as much as possible. And I infer from this fact that the value of ergot in diabetes mellitus consists chiefly, if not entirely, in controlling the polyuria that accompanies it. In cases of diabetes mellitus without polyuria ergot is probably of no great benefit. And now arises the question, why is the amount of sugar voided in proportion to the amount of urine passed? There appears to be a mutual interaction, the sugar in the blood increases its watery portion, and the increased amount of the latter augments the discharge of sugar.

From the following table it is easily seen that the more urine was voided the greater was the loss of solids. The figures obtained to show the amount of solids represent only a very rough estimate, obtained by multiplying the last two figures of the specific gravity by 2.33, to get the amount of solids in 1000 parts of urine (Wickham Legg), and calculating from this the average in a pint, and the whole amount passed in the day. The increased production of urea should be remembered.

Date.	Amount.	Specific Gravity.	Average in pint.	Total amount in 24 hours.
Feb'ry 3,	20 pints.	1034.	600 grains.	12,000 grains.
" 4,	8 "	1036.	638 "	5,100 "
" 8,	6 "	1033.	585 "	3,500 "
" 12,	6 "	1032.	567 "	3,400 "
" 15,	5½ "	1038.	673 "	3,700 "
" 17,	4 "	1034.	600 "	2,400 "
" 18,	2 "	1039.	692 "	1,384 "
" 21,	5 "	1033.	585 "	2,925 "
March 2,	5 "	1030.	532 "	2,660 "
" 6,	4 "	1032.	567 "	2,268 "
" 26,	5 "	1027.	490 "	2,450 "

P. S.—*July 3.* The patient continues to do well; and has done very hard work during harvest, the weather being unusually hot and sultry.

MEDICAL PROGRESS.

COMPLETE INVERSION OF THE VAGINA.—A non-pregnant woman was recently admitted at the obstetric clinic of PROF. BRAUN, suffering from complete inversion of long standing. At first it was unaccompanied by pain, but later the painful sensations and interference with urination showed that there was also a prolapse of the bladder, proved by the backward and downward direction taken by the catheter; the rectum occupied its normal position. The uterus was not displaced, and the uterine sound could be introduced for a depth of about six inches; the cervix was elongated. Ordinarily such displacements of the female genital organs are due either to great weight of the uterus or relaxation or laceration of the perineum, or both combined; in this case the elongated cervix supplied the abnormal weight. Treatment may consist either in restitution and retention with pessaries, or may require an operation. In Prof. Braun's case a portion of the cervix and vaginal wall was excised and the edge brought together with stitches, and the rent in the perineum freshened and sewed up; the vagina was then tamponed with iodoform cotton.—*All. Wiener Med. Zeit.*, May 16, 1882.

THE ACTION OF CARBOLIC ACID ON FEVER PATIENTS.—DR. VAN OYE'S thesis, published at Paris in 1881, contains the following conclusions on this subject (*Journ. de Thérap.*, 10th February, 1882). Carbolic acid is a poison of the nervous system, and possesses in the highest degree the property of lowering the temperature of man and the higher animals. Doses of carbolic acid, without appreciable action on the normal temperature, are sufficient to lower the febrile temperature. This lowering is produced in febrile patients whether suffering from simple inflammation, or from infectious pyrexia. It commences very soon after the absorption of the medicine, and its extent varies, according to the dose, from one to three degrees, and its duration from one to three hours. Its probable cause is the loss of heat resulting from the cutaneous hyperæmia, and the more or less abundant sweats which coincide with its production. A rigor and all the phenomena of the febrile state supervene, when the antipyretic action of the preceding dose is exhausted. At the same time the temperature rises suddenly to its original level, and even above it. A new dose may interrupt this attack, and even prevent it if the medicine be administered in time. Doses which are sufficient to produce the entire useful antipyretic effect do not exercise any injurious toxic action on a fever patient. Fifty centigrammes administered by the rectum are sufficient in all cases at the outset. As a rule, doses of two grammes may be gradually reached. One gramme given at once has, in some patients of special susceptibility, been sufficient to produce a lowering of temperature to the extent of 34.5° Cent. (94.1° Fahr.). This exaggerated depression has not in any case been injurious to the patient. Pulmonary congestion is a danger to be feared and avoided in the use of carbolic acid. Dr. Van Oye has pointed out albuminuria, polyuria, and fatty degeneration, as the possible effect of long doses greatly prolonged. The antipyretic properties of carbolic acid should, the author says, be reserved to overcome high temperature in continued fever, and to prevent the paroxysms in intermittent fever.—*London Medical Record*, June 15, 1882.

CONGENITAL MALFORMATION OF THE RIGHT KIDNEY.—MR. POWELL gives the following account of a necropsy made at the Nottingham Borough Asylum. The subject of the post-mortem was a man aged forty-

five years, who had been a patient in this asylum for little more than a year, suffering from melancholia. His death was due to atrophy of the brain, and had no connection with the abnormality. All the abdominal organs were in their normal positions except the right kidney, which was found lying on the bodies of the fourth and last lumbar vertebræ, as nearly as possible in the median line, and covering the upper part of the common iliac vessels and bifurcation of the aorta. The organ was smaller than was natural, and of an irregularly rounded shape anteriorly, but concave posteriorly and fitting on to the bodies of the vertebræ. At its upper extremity and to the left it was joined to the lower end of the left kidney, which was normal in size and shape, except that the lower end was somewhat elongated and pulled forward. On the anterior aspect of the abnormally placed organ was a fissure running obliquely downwards from left to right, and in this lay the ureter, which passed down in front of the iliac vessels and entered the bladder in its normal position. The right renal artery was derived from the aorta an inch above its bifurcation, and entered the kidney at the upper extremity of the fissure above alluded to. Three smaller arteries springing from the right common iliac also entered the kidney posteriorly. The left kidney had its own ureter, which passed down beneath the junction of the two kidneys on its way to the bladder. The right supra-renal capsule was in its normal position, and consequently some distance away from the kidney. The tissue of both kidneys had to the naked eye a healthy appearance.—*Lancet*, June 24, 1882.

Infectiousness of Tubercle.—M. Giboux has made some new experiments which confirm his results recently presented to the Académie des Sciences as to the noxiousness of the expired air of phthisical patients. Placing in two cages young rabbits of the same litter, from perfectly healthy parents, as shown by post-mortem examination, he caused them to respire daily for two or three months twenty to twenty-five litres of expired air from persons in the second and third stages of phthisis, passing, in one case, the air first through cotton wool. The animals which were thus protected by the cotton wool preserved their health, as shown by autopsy, during the entire course of the experiment; while the animals which inspired the infected air directly soon lost their appetite, suffered from diarrhœa, became emaciated, and after death tubercles were found in the liver, spleen, and apex of the lungs.—*Revue Scientifique*, June 3, 1882.

Recovery from Hydrophobia.—A case of recovery from an attack of hydrophobia was related to the Académie de Médecine at the meeting of June 13, by M. G. Denis-Dumont, of Caen. The patient was a man, thirty-eight years of age, of strong constitution and previous good health, who was bitten on April 16 on the forearm by a rabid dog, which had bitten, the same day, a woman and two children. The woman died of hydrophobia on May 20, and the news of the death profoundly impressed the patient, who became restless, anxious, affected with extraordinary thirst, and complained of sore throat and of difficulty in swallowing. He refused all drink which was offered to him, manifested a tendency to bite persons and objects around him, and presented convulsive attacks of the character so frequently met with in hydrophobia. He was taken to the hospital on May 23, and none of the medical men in attendance had any doubt that he was suffering from hydrophobia. The treatment employed consisted in hypodermic injections of a centigramme of pilocarpine, which caused an abundant diaphoresis and salivation. At the same time a draught was given of two drachms of bromide of potassium, four drachms of chloral hydrate, and an ounce of syrup of codeia (whether at a single dose or in divided doses the report does not state). The symptoms presented a rapid amelioration, and on the 30th of May had entirely ceased. It seems open to question whether or no the case was one of genuine hydrophobia. When the symptoms commence with mental disturbance, distinctly excited by such intense apprehension of the disease as is excited by the news of the death of another person bitten at the same time, the case cannot be regarded as affording conclusive evidence on the therapeutical question. M. Bouley, however, announced his intention of communicating to the Académie at the next meeting another case of hydrophobia in which recovery followed the use of pilocarpine.—*Lancet*, June 24, 1882.

Albuminuria after External Applications of Tar and Iodine.—Dr. Jacubasch (*Charité-Annalen*) found that after having made applications of a tar-vaselin (picis liq., one part; vaseline, ten parts), to a child seven years old for eczema, albuminuria appeared, and continued for seven days after discontinuance of the applications. On repeating the application the albuminuria reappeared and continued for six days. It was proven that the vaselin alone would not produce this effect. Dr. J. noticed the same effect to be produced on two other children aged six and eight years.

He also observed that albuminuria and fever followed the application of iodine to a swollen scrofulous gland in a girl four years of age.

Albuminuria, after pencilling with iodine, had already been observed by Simon and Budin, but only in children. J. noticed the same in a lady twenty-five years of age, seven hundred square centimetres of whose skin had been pencilled with iodine. Salts of iodine do not produce this effect, nor will it follow if the surface to which the iodine has been applied be washed with a solution of common salt or soda.

Von Lassar reports a case of fatal albuminuria in a man, following an application of petroleum to the whole surface of the body, on account of itching. Lassar has experimented by rubbing petroleum into the skins of animals. He found that it caused rapid degeneration of the epithelium of the uriniferous tubules. —*Physician and Surgeon*, June, 1882.

Absorption from the Bladder.—Dr. B. London, of Carlsbad (*Berliner klin. Wochen.*, No. 11, 1881), has made a series of chemical and histological investigations in Ludwig's laboratory, in order to determine the disputed point whether the mucous membrane of the healthy urinary bladder does or does not permit absorption. He found, on injecting into his own bladder weak solutions (½ per cent.) of chloride of lithium and iodide of potassium, that traces of these could be detected in the saliva. As it has been said that distention of the bladder favors absorption, possibly by producing some mechanical alteration in the epithelium, he made a number of observations on the bladders of dogs, and found that no degree of distention caused either displacement or a solution of continuity of the epithelium, on account of its extraordinary elasticity, but that there was a decided change in the shape of the epithelial cells.—*London Med. Record*, June 15, 1882.

Simple Means of Detecting Trichinæ.—According to Prof. Phin, the parts of an animal that should first be examined are the diaphragm, tenderloin and muscles about the head and throat. In a ham, the most likely place is that at which the muscle ends in a tendon. Cut off a thin slice with a very sharp knife, or with a pair of scissors curved on the flat. This thin

section should then be soaked for some minutes in acetic acid, spread out on a thin piece of glass, and covered with another similar piece. These two slips are then pressed together. A compressorium, by means of which the plates of glass are forced together by a lever and screw, answers admirably. But better still he finds the trichinoscope, which is a compressorium holding the two glass slips, but fitted with a simple microscope on a sliding frame, which permits the examination of the specimen in each part. A thin piece of flesh, moistened with a mixture of equal parts of acetic acid and glycerine, is placed on the lower plate, and spread by means of needles fixed in wooden handles. The upper plate is then brought down on the lower one, and the screw is turned into the slot in which it fits. By turning the nut any degree of pressure may be brought to bear on the flesh, which thus is rendered so thin and transparent that any trichinæ present will be readily brought into view.—*Boston Journ. of Chemistry*, June, 1882.

THE RED COLOR PRODUCED IN DIABETIC URINE BY CHLORIDE OF IRON.—Ever since Gerhardt directed attention to the fact, it has been well known that, in many cases of diabetes, the urine became red on the addition of chloride of iron. The substance to which this reaction appears to be due is usually known under the name of ethyldiacetic acid. On the addition of water it breaks up into acetone, alcohol, and carbonic acid; and as these substances are frequently present in diabetic urine, Gerhardt supposed that the substance to which the red reaction of the urine is due subsequently broke up into these three.

There are, however, other substances which, when present in urine, lead to a similar coloration on the addition of chloride of iron, among which may be mentioned salicylic acid and its salts. To distinguish the reaction of ethyldiacetic acid from that of other substances, VON JAKSCH (*Zeitschr. für Heilk.*, Band iii.) points out (1) that, when the urine is boiled for five or six minutes, the ethyldiacetic acid becomes decomposed, and no longer gives the red reaction; and (2) that, when that substance is extracted from the urine by shaking with ether, and the ethereal solution rendered red by the addition of the salt of iron, the red color disappears gradually after standing for a few days. These reactions are sufficient to distinguish ethyldiacetic acid; but a good many others are given, for which the original paper must be consulted.

The results of the clinical examination of a large number of urines are given with some detail. In regard to the iron reaction in diabetic urine, Von Jaksch points out the following facts. 1. In all cases where the patient died comatose, the urine gave the reaction. 2. The reaction occurred very frequently without any coma being present. Its presence does not depend upon diet, and particularly not upon the meat-diet of diabetics. 4. Neither the administration of such medicines as Carlsbad water, cod-liver oil, lactic acid, mannite, lichenin, nor of ethyldiacetic acid or acetone, caused the appearance of the red reaction in the urine.

Not only in diabetes, but also in scarlatina, measles, and other acute exanthemata, the author detected the presence in the urine of the substance which gives this red reaction.—*London Med. Record*, June 15, 1882.

OPIATES AND PERISTALSIS.—PROF. NOTHNAGEL, of Vienna, recently communicated to a German society the results of experiments on the action of opium and morphia on the intestine. The constipating power of these drugs appears due to their being irritants of the splanchnic, the inhibitory nerve of the intestine. That nerve is specifically influenced by morphia, just as the vagus, the inhibitory nerve of the heart, is acted upon by digatalis; in fact, in both cases, small doses excite, large doses paralyze. It was observed, in a discussion on this question, that the peristaltic action of the intestines is not necessarily the same in man as in animals. Antiperistalsis does not appear to occur in the latter; in our species it is known to exist; though, when obstruction exists, peristalsis in the ordinary direction is quite sufficient to account for fecal vomiting. Dr. Rosenstein, however, had seen chronic fecal vomiting in a patient of his where no mechanical obstruction could be found. Prof. Preyer stated that he had seen antiperistaltic movements of the small intestine in animals, and pointed out that the filling and emptying of the cæcum, especially of the very long cæcum of some animals, could only be effected by alternate peristalsis and anti-peristalsis.—*Brit. Med. Journ.*, May 27, 1882.

ARTIFICIAL DRUM-MEMBRANES, AND ESPECIALLY THE COTTON PELLET.—DR. GRAF reports seven cases in which he employed several forms of artificial drum-membranes, and thinks, if any conclusions can be drawn from so few cases, that the artificial drum-membrane is useful only in cases of large perforations, with a tough mucous membrane of the drum-cavity, where there is but little or no secretion, and great diminution of hearing. He thinks he can also testify to Moos' observation, that the artificial drum-membrane sometimes restores bone conduction, but in one instance this was not the case. He also agrees with Bezold that a layer of boracic-acid powder causes increased hearing by acting as an artificial drum-membrane. As a general thing, however, he is inclined to give the cotton pellet the preference. Its therapeutic effect is also in its favor. It does not seem to be of great importance whether the pellet is used dry or moistened with glycerine, vaseline, etc. This depends upon the peculiarity of each case.—*Archives of Otology*, June, 1882.

POST-MORTEM SIGNS OF DROWNING.—From an analysis of one hundred and seventy cases of drowning, of which the appearances are arranged in tabular form, DR. F. OGSTON, JR., draws the following conclusions:

1. When an external examination of the body only is allowed, if abundance of water pours from the mouth on turning the corpse face downwards, and if white watery froth is found at the mouth and nostrils, or if it may be made to issue from them on compressing the chest, we may be justified in giving an opinion as to the probability of drowning, especially when the accessory signs, viz., rosy redness of the face and front of the chest, gooseskin, and bleaching and corrugation of the hands, are well marked, presuming always that no lethal injuries are seen on the body which would appear to have been inflicted before death, and no traces of corrosive action, etc., from poisons be observable about the lips, hands, clothes, etc., but that to justify us in giving a more positive opinion we ought to have furnished to us a detailed account of the locality in which, and the circumstances under which, the body was observed before its removal to the place where it lies for examination.

2. That where a complete inspection of the body is permitted, we may give a more positive opinion when, in addition to the external appearances, water in marked quantity, mixed with white watery froth, is found in the lungs and stomach, and also, perhaps, when a large quantity of watery fluid is seen in the pleural cavities, when sand, seaweed, etc., are found in the bronchi, or even in the trachea, when the lungs are bulky or protrude on the removal of the sternum, and when the blood within the heart is wholly fluid—especially when with these signs we find marked appearances of asphyxia in the heart, lungs, liver, etc.—*Edinburgh Med. Journ.*, April, 1882.

Treatment of Strumous Glands.—The treatment of chronic caseating strumous glands has undoubtedly been improved in quite recent times. In the earlier stages the external application of iodoform in the form of its collodion is frequently of marked service, and when suppuration has taken place the thorough local application of powdered iodoform and the enucleation of the glands are of great value in cutting short the affection and producing a quick recovery. In a paper in the *Central. f. Chirurg.*, Dr. von Lesser points out that the disease in the glands often assumes the form of small caseous foci, which may become encapsuled and possibly calcareous, but are more likely to lead to suppuration, during which they are extruded, or to general tubercular infection. In view of these events he has, while the glands are still only indurated, attempted to enucleate these caseating portions of the glands. His operation is thus performed: Fixing the gland and pushing it forward under the skin with the finger and thumb of the left hand, he makes a small puncture through the skin and into the gland with a narrow knife. Through this wound he passes a small sharp spoon and scrapes the interior of the gland. The soft cheesy portions readily yield and come away, while the more healthy parts of the gland prove more resistant. If several glands lying close together are enlarged, he operates on them all, or on several through one skin wound, the spoon being pushed into one after another. By this means the disease is cut short, ulterior dangers are avoided, and unsightly scars prevented. Lesser recommends that the operation should be done with strict antiseptic precautions, and that care should be taken not to wound any large vessel, nor to leave behind in the wound any of the cheesy débris.—*Lancet*, June 24, 1882.

Laparotomy in Purulent Peritonitis.—The patient, a young man, aged 21, operated on successfully by Dr. Schmidt for purulent peritonitis, was shown last year in the Medical Society of the Moscow Military Hospital (*Wratsch.*, Nos. 51, 52). Eight months before, he had been admitted into the hospital for recurrent fever. In the hospital he had three attacks, the last being followed by inflammatory fever, the cause of which was not clear. Six months thereafter the patient came into Dr. Schmidt's hands in a very reduced condition, and with a well-marked exudative peritonitis. He decided to open the abdominal cavity, and, under antiseptic precautions, with the patient under chloroform, he made an incision from the umbilicus to the symphysis. On division of the thickened peritoneum, a large quantity of healthy pus gushed out. As there was no sign of decomposition, the cavity was emptied as completely as possible without washing it out with any antiseptic. Two finger-thick drainage tubes were inserted, the wound sewn up, and a strict Listerian dressing applied. The dressing was at first changed daily, afterwards every five to ten days. The wound healed without a bad symptom, and, in two months from the operation, the patient was recovered. Dr. Schmidt believes that the cause of purulent peritonitis is the escape of low organisms from the intestine into the abdominal cavity. Such may be the case, but certainly in this instance the explanation by a thrombosis, brought about by the recurrent fever, seems to lie nearer to hand. But however that may be, the case is an interesting and encouraging one, indicating that surgical treatment is justifiable in purulent peritonitis, as it is in empyema.—*London Medical Record*, June 15, 1882.

The Treatment of Writers' Cramp.—Dr. Th. Schott, of Nauheim, writes to the *Deutsche Medicinische Zeitung* to claim for his brother (Dr. Aug. Schott) and himself priority in the mode of treatment recently described by M. Romain Vigouroux as Wolff's method, and which was communicated by them to Wolff in 1878. He gives a very clear description of the method, which consists of a combination of gymnastics and shampooing. The gymnastics are active and passive. The latter are performed by the patient alone. They last 20, 30, to 45 minutes. Commencing with the fingers, these are flexed, extended, abducted, and adducted; the thumb is treated separately. Then follow four movements of the wrist, flexion and extension of the forearm on the arm, and finally movements of both arms in four directions. Each exercise should be repeated six to twelve times, and with sufficient effort to redden the face. After each series of movements there should be a short pause. In the active gymnastics the same movements are made, but each must be arrested, or rather opposed by another person, so that for each a distinct muscular effort is required. These exercises should last as long as the preceding series. They should be repeated three or four times a day. In the process of shampooing, the operator oils his hands and the patient's limbs, and commences by light friction over the course of the principal nerve-trunks, from the periphery to the centre, gradually increasing the force of the pressure, and again relaxing it towards the end. This part should last about ten minutes. Shampooing of the muscles is performed by taking the body of a muscle in the hand and rubbing it longitudinally and transversely, without compressing it too much on the subjacent bone, commencing with the hand and finishing with the shoulder. The duration is the same as for the nerves. Care must be taken to avoid bruising, which does harm. A single daily shampooing is enough. The improvement which is manifested by the third or fourth week should not cause a cessation of these exercises, but they should be continued for six or eight weeks to ensure a complete cure. In the early period of treatment the patient should abstain from work, and go back to it gradually, avoiding all cause of fatigue. To prevent relapses, Dr. Schott recommends daily employment of the passive exercise for some weeks, and the use of the local cold douches suggested by Esmarch. He has cured all his patients, and has seen no relapses. Most of them were the female pupils of the Conservatoire of Music, at Frankfort, sufferers from pianists' cramp.—*British Medical Journal*, May 27, 1882.

Peculiar Skin Eruption Occurring during Pregnancy.—Mr. R. J. W. Oswald reports the following remarkable case: Mrs. A., aged forty, the mother of five children, was confined of a healthy male child on March 7, 1882. She had had no child or miscarriage for eight years and three months previously. When about five months pregnant with this last child she noticed a squamous eruption appear on the upper third of the forearms, not affecting the flexures of the elbow-joints. This eruption gradually became worse, the skin was indurated and raised, and eventually both forearms and hands were affected. Almost concurrently with this the lower limbs showed the same peculiarities, with some variation, however. The enlargement was very great, almost to twice the natural size, accompanied with œdema. The skin was very rough and hard, and appeared similar to "elephantiasis." About two months before the patient was confined, larger bullæ appeared on the lower extremities, but at no time were the upper limbs thus affected. Some of these bullæ burst and formed hard thickened crusts, from which exuded a thin glairy fluid. The pain accompanying this affection was very severe, and the patient was unable to go about her household duties for fully three months previous to her confinement. Immediately after the confinement the

skin of the forehead, face, neck, and upper part of the chest, which up to that time had been free from blemish, began to be squamous and indurated, and very much thickened, but no bullæ appeared at any time. Both anæsthesia and hyperæsthesia were present. She is now (seven weeks after her confinement) better in some respects, although there are still a few bullæ on the legs, and the skin still shows to a slighter extent the peculiarities just described. The patient is, no doubt, of a rheumatic diathesis, but whether this, combined with the great changes the system undergoes during pregnancy, has helped to cause this eruption he could not say. The only treatment adopted has been absolute rest, and the administration of alkalies. Prèvious to her confinement eight years ago the patient had a similar eruption on the forearms and hands, and the legs and feet were affected also about two months before the confinement. In about three weeks after this the skin was quite clear again, and the severity of the attack was not nearly to the extent as in the present instance.—*Lancet*, June 10, 1882.

THE FUNCTIONS OF THE EUSTACHIAN TUBE.—In his earlier experiments Fournié came to the conclusion that the Eustachian tube was open in the state of muscular rest. The manner of proving this is somewhat peculiar. He took two glass balls, which were attached by a glass rod 2 mm. thick. In one of the balls there is gas; the other is closed. Since he could not smell that gas was in the first ball, he considered it as proven that by open tubes no air went into the drum-cavity, it must therefore be driven into it by the action of the muscles. Later anatomical considerations (*Rev. Méd.*, No. 38, 1881) have convinced him that the tubes are widest opened at the beginning of the act of deglutition, brought about by the action of the tensor veli and the m. glosso-palatinus. In the latter part of this act the tubes are compressed by the tensor tubæ, and the air contained in them forced into the drum-cavities.

How erroneous the conclusions are which Fournié draws from his alleged physiological facts, is evidenced by his discussion of the usual methods of inflation. According to Fournié, Toynbee's experiment does not produce a rarefaction but a condensation of air in the drum-cavity. A simple inspection of the drum-head during this experiment would have convinced him of the contrary. In Politzer's experiment the forcing of air into the tube is of but little moment. In Lucæ's or Gruber's procedure the passage of air through the tubes, according to Fournié, is impossible, as the tubes are closed. The best procedure is now found: "The procedure of Edward Fournié." Open the mouth before a looking-glass, depress and contract the velum palati, until above and before the anterior arches two small dimples are formed; in that moment the tubes are opened and the air enters the drum-cavity by itself.—*Archives of Otology*, June, 1882.

HOANG-NÀN IN HYDROPHOBIA.—In a recent case of hydrophobia in Paris, M. GINGEOT administered hoang-nàn, a Tonquin remedy employed in the East for a variety of diseases, and especially for hydrophobia. It is a product of the Strychnos gautheriana, so-called after the missionary who first transmitted a specimen to France. According to Wurtz the bark contains some strychnine and a still larger quantity of brucine, and its action on animals is the same as that of these two alkaloids, with the difference, however, that the effects are manifested first on the hind limbs, then on the trunk, and lastly on the fore limbs. Another difference from brucine is that the convulsive spasms always cease a short time before death. In hydrophobia, according to Lesserteur, it should be freely given, until the patient experiences a sense of general malaise, giddiness, and nervous movements of the jaw. Vinegar should be given with it to dissolve the active principle in the stomach. In M. Gingeot's case the progress of the disease did not appear to be in any way influenced by the treatment, but the first doses were vomited, and the patient died shortly after two hypodermic injections of hong-nàn had been administered.—*Lancet*, June 17, 1882.

PIGMENTARY HYPERTROPHIC CIRRHOSIS IN DIABETES MELLITUS.—MM. HANOT and CHAUFFURD report the histories of two cases in which a bronze coloration of the skin, analogous to the condition observed in Addison's disease, but without pigmentation of the mucous surfaces, occurred during the cachectic stage of diabetes mellitus. At the autopsy there was found a hypertrophic cirrhosis of the liver, with numerous new formations of bile ducts and pigmentary atrophy of the hepatic epithelium. The authors attribute, with some reserve, these complex lesions to three successive influences: first, the lesion producing the diabetes; then the alteration of the blood thereby produced, and finally the irritant effect produced by the arteritis.—*Gaz. Hebdom. de Méd. et de Chir.*, June 9, 1882.

GLANDERS IN THE HUMAN SUBJECT.—In a recent number of the *St. Petersb. Med. Wochenschrift*, DR. ZDEKAUER describes a case where the clinical symptoms of glanders were observed, although no distinct history of infection could be obtained. A lady, aged 46, and in very good health, was attacked, at the beginning of January, with swelling of several large joints, and high fever. At the end of three weeks, the temperature continued over 104°, with no eruption, slight enlargement of the spleen, and very feeble pulse. Dr. Zdekauer diagnosed "latent blood-poisoning complicated by rheumatic polyarthritis." On January 26, the face became œdematous, with pustules as large as a bean; there were great lividity of the lower eyelids, no glandular swellings, and a typhoid condition. On the next day, the face was enormously swollen, and large grayish swellings, with dilated lymphatic vessels between them, covered the left lids, the nose, and the mouth. Several pustules, of the size of cherries, with livid bases, were found on the arm; the patient became comatose, and died in the evening.—*British Medical Journal*, May 27, 1882.

PYROGALLIC ACID IN THE TREATMENT OF VENEREAL ULCERS.—DR. ANDRIEU (*Thèse de Paris*, 1881) says that pyrogallic acid has been introduced into therapeutic use by Dr. Jarisch, of Vienna. Since then M. Vidal at Saint Louis, and M. Terrillon at the Lourcine Hospital, have applied it successfully to the treatment of soft chancre. The formula used at the Lourcine is as follows: Starch, 40 grammes; vaseline, 120 grammes; pyrogallic acid, 40 grammes. This ointment should be used fresh, and kept in a stoppered bottle. To remedy the inconveniences of dressing venereal ulcers with fatty bodies, M. Terrillon has substituted for the ointment a powder composed as follows: Pyrogallic acid, 80 grammes; starch, 80 grammes. This powder is blown on the part by means of a small bellows. Nevertheless, a certain number of cases reported by Dr. Andrieu in his thesis tend to show the superiority of the ointment over the powder. If one application be made daily, the duration of the treatment is notably abridged, in comparison with the methods generally employed. It is sometimes necessary, when the ulcer is very extensive, to make two applications; but the latter is the exception. After the second application, the chancres will have lost all their virulence.—*London Med. Record*, June 15, 1882.

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THE DANGERS OF ATHLETIC SPORTS.

LAST week we alluded, in terms of the highest praise, to the recent popularity of athletic, and especially of summer, sports. But there is another side to the question. "Nothing venture, nothing have," saith the old proverb, or, transposing it, the having implies a venturing. Every climb means peril of a broken limb; every swim the possibility of drowning; every ride may become a runaway.

Many games involve actual danger, only to be avoided by an alertness the result of long practice and by suitable precautions. Witness the mask of the base-ball catcher and the fencer, the gloves of the boxer, the button on the foil. But strength only comes from perils faced and mastered. The "milk-sop" may neither break his bones nor his neck, but his physical as well as his mental flabbiness involve passive dangers less heroic and less apparent than those of the athlete, but not the less certain and, it may be, deadly.

But the dangers from blows and falls are patent to every one, and must be, as it were, anticipated and provided against by those engaging in such sports. We wish now to raise anew a warning voice as to less apparent dangers—dangers, in fact, unknown save to the physician.

One source of evil we alluded to but lately—that of heat exhaustion. The season for out-door sports is the hot season. The boat races, the cricket or the base-ball matches are in the broiling sun, and if brief, as in rowing, are fierce and impetuous to the last degree; if long, as in ball and cricket, hours may be spent in the heat, and the better the player the longer he is at the bat. But it is often in the previous training, or rather over-training, that the danger lies. The college man, accustomed to only moderate exercise and to ordinary food, suddenly undertakes long walks, swift runs, and repeated rows; restricts and alters his ordinary food; changes more or less his habits as to sleep and tobacco, and, it may be, other stimulants—changes which, though in themselves good, are none the less disturbances of his ordinary equilibrium—loses fat and gets down to "fighting weight." To most men such a course of training means vigorous health; but every now and then either a man goes to the extreme and overdoes it or lacks the ordinary toughness of fibre, and in the final short but sharp struggle he becomes exhausted and faints in his place or when the trial is over.

But there are other dangers still. Train as one will, no practice ever equals the race in the excitement and the intense exertion of the competition; a running mate is needed even to make Goldsmith Maid do her best. Each time and especially at the race, with the exertion comes the need for more blood sent quickly to all parts of the muscular system. The heart must do more work, and do it suddenly and effectively. With the growing biceps the cardiac muscle grows too, and enlargement of the heart, sometimes even acute in its onset, is not an uncommon result; or, if the heart responds but imperfectly to the oft-repeated and prolonged demand, the form of irritable heart, so well described by Da Costa, in soldiers, will often set in.

But the mischief does not stop even here. With increased blood supply the lungs must be overstrained to receive and oxygenate the blood so suddenly thrown upon them, and also by the mechanical effects of the violent respiration. Under the sudden or continued pressure the delicate air cells not seldom give way and emphysema results. In the fierce struggle at forty-six strokes to the minute, what wonder that the race is lost and with it not rarely the possibility of a brilliant future for one or more young lives.

Women are certainly less apt to suffer from vigorous sports than men; yet not a few overdo. A young girl at school or engaged in home duties and leading a semi-sedentary life for six days in the week, on a Saturday will walk five or ten miles; or spend an entire afternoon at tennis or croquet. It is the same disproportion that does harm. If every day she walked three to five miles, the ten would do no harm. Physical development must come gradually and not spasmodically. The first days of a summer's holiday in the mountains do not give the strength for climbing, that will come in time. *Petit à petit* was the motto of the French knight, at the foot of a mountain with his pick-axe. Particularly do girls and often women harm themselves by over-

exertion at the menstrual period, and especially of course in winter. Modesty forbids the true excuse, candor rejects a false one, and off they go with aching backs and throbbing heads as merry as the merriest; walking, running, skating, exposed to dampness, and cold, and fatigue, when they should be at rest, warm and dry. Health should be had at the cost of any pleasure, and a sister of Scheherazade surely can always find or make a valid excuse.

IODOFORM IN VENEREAL PRACTICE.

LIKE most other new and useful remedies, iodoform, which in certain properly selected cases acts almost like a specific, has come to be prescribed so indiscriminately that it often fails to produce the results expected from it, and consequently suffers unjustly in general estimation.

Leaving aside for the present its use in antiseptic surgery, a subject now being actively discussed, it may not be without avail to mention in a few words the indications for its employment in venereal practice, and the limitations within which, in such cases, it is likely to prove beneficial.

Its chief value, and that which first brought it prominently to the notice of the profession, is in its application to unhealthy or chancroidal ulcers of the genitals, upon which its combined sedative and alterative action exerts the happiest effect. In this respect no other drug can be compared with it, and in its power to relieve pain, to prevent offensive decomposition of discharges, and to stimulate the surface of such ulcers to granulation, it is certainly unequalled; there, however, its usefulness stops; it will not retard the growth of a large, indurated, infecting chancre, it will not arrest phagedæna, it will not remove venereal warts, nor materially affect an inflamed gland; and yet it is an every-day occurrence to find it prescribed for one or the other of these affections to the neglect often of the proper remedial measures.

The chief objection to its use is its pungent and to some persons peculiarly disagreeable odor, which it is almost impossible to conceal. Wood-charcoal, petroleum, oil of eucalyptus, glycerine, alcohol, tannin, various perfumes, and strongly odoriferous drugs, have been tried with greater or less success, but the iodoform always asserts itself sooner or later. For ability to "hang around" anything it is once applied to, it far exceeds "the scent of the roses," or any other scent with which we are familiar. The most effectual plan of disguising the fact that iodoform is in use about the genitals, is one employed by a practitioner of this city, who recommends such patients to spread some of the ointment upon a piece of muslin and bandage a finger with it, thus apparently furnishing to all inquiring friends conclusive ocular evidence as to the source of the smell.

Internally iodoform has been proved to be of great use in those cases of obstinate tertiary syphilis in which other forms of iodine have lost their power. In doses of from a quarter to a half a grain, four times daily, gradually increased if the stomach tolerates it, it will sometimes exert a most excellent influence on old syphilitic ulcerations, fissures of the tongue, obscure cerebral or hepatic symptoms, or other late manifestations of the disease.

Here, again, we have sometimes known it to be prescribed injudiciously, in the early stages where mercury should have been administered, and in other cases in which the same results might have been attained by iodide of potassium, and with far less danger of gastro-intestinal irritation.

It should never be used internally in late syphilis unless the other iodides have failed, but if it is then given cautiously, and if care be taken to associate its administration with the taking of food or the ingestion of barley water or some other mucilaginous drink, it will often be found of great benefit.

Iodism and unpleasant cerebral symptoms result from its continued use in full doses, and, as in a case reported by Oberländer, have appeared when only five grains had been taken.

THE ASSOCIATION FOR THE ADVANCEMENT OF MEDICINE BY RESEARCH.

SUCH is the clear but cumbrous title of a society which has been, as it were, compelled to exist by reason of the repeated and fierce attacks of the anti-vivisectionists in England. Its purpose is not so much, perhaps, the endowment of research as its guidance and protection. The Royal Society and the Committee of the British Medical Association on Scientific Grants both supply the means to scientists not so happy as Mr. Darwin in being plethoric in purse. But this Association is especially "to meet promptly any attack from outside upon the invaluable labors of competent investigators," as Dr. Wilks, the Treasurer, puts it. In case of any doubts arising in the mind of the Home Secretary as to the advisability of granting any license for research by experiments, here is a body to which he may confidently appeal to determine whether the proposed investigation be needful, the investigator competent, the methods wise and humane. If the law be invoked to prevent progress by research, the Association will also wield the same weapon to defend the scientists thus threatened. The education of public opinion, however, will be, perhaps, its chief function. Even in this country such education is sadly needed, but in England it is imperative. If a change is not soon effected in public opinion and in legislation, research must come to an end, and sci-

entific medicine must stop. The publications of the Association, the pamphlet of Mr. S. Gamgee on *The Influence of Vivisection on Human Surgery*, and the published addresses and papers of Dalton and others in this country, will do much to put the matter in its true light, and overcome the prejudice which exists as the child of ignorance and false sentiment.

The Association starts, we see, with over £1000 in its treasury. We wish it the best success, with the added wish that no such association shall ever be needed in this country by reason of any similar opposition to scientific research.

SEWERAGE IN PHILADELPHIA.

IN our issue of June 17th, we directed attention to the unsanitary condition of the sewerage of Philadelphia, and specified some of the more glaring defects in the system. Since then Councils have passed two ordinances, which, if faithfully administered, will have the effect of greatly improving the character of all future work of a certain class. The one requires "that all sewers hereafter to be built, and of which the area required shall be less than that of a circular sewer of four feet diameter, shall be of the section known as oval or egg-shaped;" the other provides for the appointment of inspectors of the construction of branch sewers, drains, and inlets, who are to be held responsible for the faithful execution of the work in strict accordance with the specifications and contract.

As an evidence of a livelier and more intelligent interest in the solution of a question vitally connected with the preservation of the public health, this legislation is indeed most promising. It undoubtedly will be productive of good results. But its object relates solely to the design and character of works hereafter to be constructed, and affords no relief whatever for the blunders and evils with which the present system is burdened.

It was hoped that, in the apportionment of the handsome surplus of over one million dollars among the most needed permanent improvements of the city, a reasonable amount would have been set apart for the purpose of commencing the thorough reconstruction of the sewerage works in accordance with the requirements of the highest standard of modern skill and knowledge. This course would have been timely and judicious, and there appears to be no justifiable excuse for its neglect.

BEEF-TEA.

WE had occasion to observe a short time ago that our long-prized and extensively-employed beef-tea was, according to the recent opinion of some physicians, of no more value than urine, which it was said very closely to resemble in composition. It is more pleasing for us now to state that, according to the researches of KOBERT (*Archiv f. Exper. Pathologie u. Pharmakologie*, Bd. xv., s. 22), which have been conducted in the laboratory of Schmiedeberg, at Strasburg, the kreatin which exists abundantly in all extracts of beef has a remarkable effect on the muscular system, inasmuch as it increases its actual power and greatly extends its capability of continuous work. His experiments were made on frogs, and of many substances tested, besides kreatin, only hypoxanthin and caffein possessed a similar action; and hypoxanthin is likewise a constituent of beef-tea. Beef-tea, therefore, if not so highly nutritious as it is generally assumed to be, is not yet so entirely useless as some observers would have us believe. The feeling of strength which its employment gives must, apart from its actual value as a nutrient, be of great service in the treatment of the sick and convalescent.

T HECURIOUS HISTORY OF AN ANATOMICAL SPECIMEN.

WE venture to think that few of our readers know the romantic history of one of the specimens in the remarkable collection of preparations illustrating the anatomy of the ear in the possession of the College of Physicians of Philadelphia. Prof. Joseph Hyrtl, who prepared the specimens (and from whom they were bought), had such relations with scientific men and dealers that he was able to procure many unusual specimens, sometimes by purchase as great rarities not to be "ordered" as wanted; sometimes by exchange; sometimes as presents. The history of some of these is found in a little pamphlet he published in 1873. As an example of the first, the skull of the gorilla cost one thousand francs, besides the labor afterwards bestowed on the preparation of the ear-bones and labyrinth. As examples of the last are the specimens from the elephant, rhinoceros, hippopotamus, and others presented to him by De Blainville. That from the hippopotamus has, however, a very peculiar and amusing history connected with it. No living hippopotamus had been brought to Europe since the time of the Romans, and the anatomy of its viscera was entirely unknown, when the French government sent M. Arnould d'Abbadie as Minister to the King of Schoa (Abyssinia). The Academy, before he left, expressed an earnest wish that he would send them the viscera of a young hippopotamus in Gannal's solution. The minister obtained the coveted prize with unexpected and most creditable tact. On his arrival he found his sable Majesty laid up with articular rheumatism, and was soon besought to lend his services, as in the Orient all the Franks pass for physicians. M. d'Abbadie answered resolutely "assuredly." "Bring me the remedy," said the King, "I would give my crown to be well again." "Nothing is easier; the

remedy is to be found in your own country; it is hippopotamus fat." "Fetch a hippopotamus," cried the King in haste to his attendants. "Not so fast, your Majesty, not so fast; it must be the fat of a female, and of a female that is pregnant," said the wily ambassador.

Diplomacy clearly has its place even in science. Huntsmen were immediately sent out in all directions, and soon returned in triumph. D'Abbadie rubbed the fat on the joints of the King and cured him! History saith not anything as to his fee, but she does record the fact that the fœtus was sent to the *Jardin des Plantes*. There De Blainville allowed Hyrtl to remove one of the temporal bones, and so the College of Physicians has the labyrinth of the hippopotamus of Schoa.

MEDICAL DANGERS FROM CONGRESSIONAL LEGISLATION.

CONGRESS having appropriated $20,000,000 for rivers and harbors, and we forget how many more millions for public buildings, and refused a paltry few thousands for the beneficent work of the National Board of Health, and nearly crippled the National Medical Library for want of $5,000, now proposes at the fag-end of the session to tackle homœopathy and other irregular schools of medicine. Mr. Cameron, of Pennsylvania, has introduced a joint resolution making it a misdemeanor punishable by a fine of $500 and dismissal from office, for any officer to discriminate for or against any school of medicine. Observe the word *any*. Thomsonians, Eclectics, Botanics, Homœopaths, the men whom Buchanan and Paine foisted on a suffering public, are all, at one fell swoop, to be made eligible to the Medical Corps of the Army, Navy, and Marine Hospital Service!

It would seem that Mr. Cameron already had enough political troubles to satisfy most public men. But they only appear to whet his appetite for more. If we really thought his action a serious menace, we should have something to say on the point; as it is, we simply call attention to it as a cheap bid for a certain kind of popularity.

THE DERIVATION OF "TROCHANTER."

A VERY curious series of errors occurs in our dictionaries as to the derivation of the word "Trochanter." They define the English medical term correctly, but give an entirely incorrect definition to the Greek word from which it is derived. Worcester derives it from the "Greek τροχαντηρ, the ball on which the thigh-bone turns in its socket," that is to say, the head of the bone. Webster says, "the ball on which the *hip*-bone turns in its socket," which is simple nonsense. Liddell and Scott, whence doubtless they both took the definition, use precisely the same words as Webster, and give as authorities, "Galen; Epigramma apud Sextum Empiricum M. I. 316; Julius Pollux II. 187; Hesychius."

We have taken no little trouble to verify the references, and find that not one of them justifies the error. Kühn's edition of Galen is in the Library of the College of Physicians, and the other three are in the Loganian Library at the Ridgway Branch of the Philadelphia Library.

Hesychius speaks of the trochanter as "the outside protuberance of the head [*i.e.*, upper end] of the thigh."

Sextus Empiricus quotes from some unknown writer, who uses the word, not very clearly, in speaking of the legs, extending as far as the trochanters, "λνία βᾶσα τροχαντήρων ἀχρι."

Pollux, in the *Onomasticon*, says (we give the Latin translation), "ossium vero circa femoris caput prominentia trochanter nominatur." "The prominence of bone about the head of the femur is called the trochanter."

But Galen's use of the word is still clearer, and we believe most other Greek writers also use the word correctly. Thus in the *De Ossibus ad Tirones*, ch. xx., xxi., and again in the *De Anatomicis Administrationibus*, Lib. ii., Cap. vi., he repeatedly refers to the head of the femur, τὴν κεφαλὴν τοῦ μηροῦ; the neck of the femur, τὸν αὐχένα τοῦ μηροῦ; the great trochanter, τὸν μέγαν τροχαντῆρα; and the lesser trochanter, τὸν μικρὸν τροχαντῆρα; and even distinguishes correctly the muscular insertions into different parts of the great trochanter. We trust that our dictionaries will correct the error.

PILOCARPINE IN HYDROPHOBIA.

IT has been rumored in Paris, lately, that M. BOULEY had cured two cases of hydrophobia by the subcutaneous injection of pilocarpine. It turned out, however, that the cases were probably not examples of hydrophobia. The Paris experience with this remedy has not been fortunate. Prof. Seé has used it in one case without success; and Dujardin-Beaumetz, in no less than six cases of the genuine disease, with equal ill-success. Indeed, the latter affirms that pilocarpine rather increases the severity of the symptoms than affords any relief. Experience, then, is decisively against the administration of this remedy in hydrophobia. The subject deserves mention here merely to prevent the loss of valuable time in the treatment, for, whilst pilocarpine has no curative effect, it rather increases than diminishes the sufferings of the patient.

REVIEWS.

Manual of Diseases of the Skin, with an Analysis of Eight Thousand Consecutive Cases, and a Formulary. By L. Duncan Bulkley, A.M., M.D., etc. 12mo. pp. 312. New York: G. P. Putnam's Sons, 1882.

This little work fills a vacant place in American dermatological literature. Arranged essentially according to the classification of the American Dermatological Association, it is in accord with the larger and more scientific works on skin diseases, and this makes it easy for the student who may wish to enlarge his knowledge of these affections, to pass from the primary work to the larger and more complete Treatise.

Introductory chapters on anatomy, and physiology, and on classification, general diagnosis, and etiology, are followed by chapters on the chief diseases of the skin as they are met with in this country, each one being briefly described as to its clinical appearances and distinctive characters, and then the general outlines of treatment are given with reference to the formulary at the end of the volume for particular and suitable prescriptions.

We can cordially recommend Dr. Bulkley's work to the student as excellent within its peculiar sphere, and far superior to the little English manuals of skin diseases which alone have heretofore been available.

Tubercular Disease of Synovial Membranes and Tubercular Disease of Joints. By John Croft. Reprinted from the *Transactions of the Pathological Society of London* for 1881. 8vo. pp. 16, pl. III. London: J. E. Adlard, 1882.

We must confess that this paper is very scientific, but very dreary. Any one who reads it will fulfil a duty, and feel happy when the duty is done. There is truth in it, and valuable truth as a plea for tubercle, both of the synovial membranes and of the joints, but it is truth so utterly unadorned and unattractive as to be very unlively. The style, too, is careless. "In the adjoining room are exhibited microscopical preparations from *six* cases of diseased joints," are the opening words, and the next three lines show that the preparations are from *seven* cases, of which six were tubercular. He refers to the "two last" cases as if the last case and its predecessor were both "last." He speaks of "articular bone" more than once, a variety of bone we never heard of before; and also of "the constitutional diathesis which leads to, or tends to, lead to the deposit," etc., a phrase whose punctuation is as remarkable as its rhetoric. Dr. Greenfield's illustrations are excellent. If scientific writers would but cultivate a reasonably graceful style, and would be clear, sharp, and short, how much would be gained. But we are not all Tyndalls.

SOCIETY PROCEEDINGS.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, June 7, 1882.

W. S. W. Ruschenberger, M.D., President, in the Chair.

Dr. J. T. Eskridge presented the following *Report of Three Cases of Abscess of the Brain.*

Abscess of the brain is of sufficiently frequent occurrence to make the subject of interest to the general practitioner. The cases reported in this paper are all the more interesting because each, due to a different cause, was associated with dissimilar diseases. The first case was associated with cancer in several of the other organs of the body; the second, with chronic meningitis; the third, with apparent facial erysipelas and pneumonia followed by acute meningitis. Detailed cases of brain lesions lose half of their interest, and become almost valueless to students of cerebral localization, when unattended by accurate descriptions of the relations of pathological lesions to ganglia, fissures, and convolutions. I wish to acknowledge the services of my friend, Dr. Charles K. Mills, who took an active part in the post-mortem examination of Case I., and rendered me valuable assistance in accurately locating the lesions in the first two cases.

Case I. *Two Abscesses of the Brain.—1. The larger one, involving the centrum ovale of the postero-frontal and parietal lobes, deeper portions of the gray matter of the anterior parietal convolution, and superior parietal lobule; 2. The smaller, the anterior two-thirds of the lenticular nucleus, and the adjoining portions of the external capsule and claustrum.*

September 8, 1881, Mrs. D., æt. 54, had been a sufferer from headache fourteen years. She had a large frame and carried considerable fat. Excepting the head trouble, she had enjoyed excellent health until two years before, when she noticed a small tumor involving the left mammary gland. This proved to be cancerous, grew gradually, and was removed by a surgeon one year after its first appearance. There had been no return of the growth, although some pain had been complained of in the region from which it had been excised. Her head pain had greatly increased in severity during the last few months.

In the early part of July, 1881, the left arm began to feel weak, and ten or twelve days later, the left leg was similarly affected, but to a less extent. About this time she went to the country for her health. Continuing to grow worse, she returned home during August, three weeks before I first saw her, and was able to walk from the street cars to her house, a few hundred yards distant. A few weeks later I was called in, and made the following notes:

The left leg was almost completely paralyzed, the muscles feeling soft and flabby. The left arm was entirely paralyzed. The muscles of the left side of the face were slightly paretic. The right pupil was normal in size, left slightly dilated, and responded imperfectly to light. There was no paralysis of the muscles of the tongue, palate, or pharynx. The tongue was slowly protruded in the median line, but when it was held in this position a few seconds it became tremulous, a vibratory tremor taking place in individual muscular fibres. Muscular power was impaired in the right arm and leg, but co-ordination was perfect. She had had no convulsions, and there were no muscular twitchings. With the exception of a slight tendency to drooping of the upper lid of the left eye, the ocular muscles seemed to be acting well and in harmony. Sensation was unimpaired on both sides of the body.

Special Senses.—Vision was equal in each eye, and she read Snellen No. 8, held at about fourteen inches. The ophthalmoscope revealed nothing beyond a slight haziness of the right retina. Taste, smell, and hearing were nearly normal, being well preserved for a woman of her age. Speech was unaffected.

The tongue was moist and slightly coated, appetite poor, bowels constipated, not having been opened for several days. The urine was high colored, sp. gr. 1025, but free from albumen. The bladder was tolerant and acted voluntarily. She was restless, did not sleep well, and complained bitterly of pain in her head. The pain was usually dull. Its seats of intensity were at the top of the head and above each temple, being

worse on the right side. She was intelligent, her mind was clear, but being under the impression that her cancer would return, she worried, had become emotional and imaginative. Temperature (left axillary) 99°; pulse 76, full, soft, and regular; respirations 24 per minute.

September 12.—Four days later she was not so intelligent, worried more, and refused to eat. The feet were extended and inverted, the balls of the great toes lying in contact with each other. The internal and posterior muscles of the legs were so firmly contracted that it required considerable force on the part of the attendant to evert and flex the feet, and the effort gave her decided pain. The muscles of the left side of the face were almost completely paralyzed. Swallowing solid or semi-solid substances was so difficult that she refused to eat.

Temperature, right axilla 96°; left axilla 99.4°; right elbow 95°; left elbow 96.7°. Pulse 86; respirations 26 per minute, and largely of the abdominal type. After taking citrate of magnesium, her bowels were opened once yesterday, being the first time in about a week.

13th.—At 11 A.M., the temperature of the room being 80°, after ascertaining her body heat, as indicated in each axilla, I made observations on her cerebral temperature. Hick's surface thermometer was employed and allowed to remain in place ten minutes. The selected stations were as follows: 1. A middle frontal station in the centre of the forehead. 2. A right anterior frontal station, over the right eye, an inch and a half above the brow and the same distance from the median line of the forehead. 3. A left anterior frontal station, similarly located on the left side. 4. A right posterior frontal station, near the external angular process of the frontal bone. 5. A left posterior frontal station, corresponding in position on the left side to that on the right. 6. A right parietal station just above the left ear. 7. A left parietal station just above the left ear. 8. A right Rolandic station, situated on or near a line drawn over the top of the head from the right to the left auditory meatus, and from two to three inches above the top of the right ear. 9. A left Rolandic station situated similarly to that on the right. 10. A right occipital station, one and a half inches to the right of the centre of the occipital region. 11. A left occipital station, one and a half inches to the left of the centre of the occipital region.

Temperature in right axilla 97.9°, in left axilla 98.4°. Pulse 104, weak and unsteady; respirations 24 per minute.

Surface Temperature of the Head.

RIGHT SIDE.		LEFT SIDE.	
Anterior frontal station,	97.3°	Anterior frontal station,	97.7°
Posterior " "	97.8°	Posterior " "	98.1°
Parietal "	97.1°	Parietal "	97.9°
Rolandic "	96.3°	Rolandic "	96.8°

She was unable to void her urine for the first time today. Thirty-two ounces were drawn off. From this time to the date of her death, just two months later, the catheter was daily required to relieve the bladder. She had not eaten anything for two days. Headache was excruciating. One-half of a grain of morphia was required each night to produce sleep, bromide of potassium making her wild and delirious. During the latter part of the day she frequently talked incoherently.

15th.—The temperature of the left Rolandic station was 5.5° higher than that of the right. The intermitting character of the respiration formed a very interesting feature of the case at this time. There was no gradual rise and fall of the respiratory movements as seen in the typical Cheyne-Stokes' respiration. There were twenty-eight shallow respirations per minute. After four or five short and rapid respirations there was an interval of rest of eight or ten seconds; then after about the same number of respirations, came another interval of rest. During the next week, the pain in the head became more intense, and localized in the top of the head and right temple. The bowels failed to respond to various purgatives and enemata.

22d.—The muscles of the left side of the face showed but little loss of power, the pupils were of equal size. The left leg, as well as the left arm, was now entirely paralyzed. The muscular strength on the right side did not fail faster than is usual in one whose general vitality is being lowered. The conjunctiva of the right eye was congested and watery, the sight being but little impaired.

Temperature, right axilla 97.6°; left axilla 98.2°; pulse 68; respirations 12 per minute, and still of the abdominal type. The movements of the abdomen preceded those of the chest, and formed with them a see-saw-like, or to-and-fro, motion, the chest apparently not expanding until the end of inspiration and beginning of expiration.

23d.—Temperature of room 82°; of right axilla 98.9°; left axilla 98.2°; pulse 72; respirations 9 per minute.

Surface Temperature of the Head.

RIGHT SIDE.		LEFT SIDE.	
Anterior central station, 96.3°.			
Anterior frontal station,	95.9°	Anterior frontal station,	96.2°
Posterior " "	95.6°	Posterior " "	97.6°
Parietal "	97.6°	Parietal "	98.1°
Rolandic "	97.0°	Rolandic "	96.8°
Occipital "	96.9°	Occipital "	98.2°

The pulse, although only 72 per minute, was very weak, but regular in time and volume. The intermitting character of the respiration was more marked on this than on the preceding day. Three or four respiratory movements were followed by an interval of rest, lasting from twelve to fifteen seconds. The number of respirations did not exceed four in succession, nor were they, at any time, less than three. The interval, or rest, was not longer than eighteen seconds, nor was it less than twelve. The respirations, which were largely abdominal, had to be counted for two minutes to obtain the average number per minute. If the movements of respiration were looked for at the beginning of an interval, none were seen during the first quarter or third of the minute, and only three or four during the second quarter or third; whereas, during the latter part of the minute, there might be eight, six, or only three respirations. Thus:

Inter.	Respirations.	Int.	Res.	Int.	Res.	Int.	Res.	Int.	Res.		
	4		4		4		4		4	=	20
15s.	9s.	15s.	9s.	15s.	9s.	15s.	9s.	15s.	9s.	=	120 sec.

It will be seen by observing the above tabular view that, if the respirations had been counted during one minute only, eight might represent the breathing frequency per minute; and if those paroxysms of respiration, if I may so term them, had been limited to three respiratory movements each, as they sometimes were, six, instead of ten, of the tabulated form, could have been set down as the number of respirations. This character of breathing, sometimes slightly increasing in frequency, continued until a few days before her death, when it changed to the so-called Cheyne-Stokes' respiration.

Sighing rarely occurred. The pupils were normal. The bowels had not been opened since the 11th instant, notwithstanding various purgatives and enemata had been given. Croton oil had been given by the mouth until it had produced griping pains, and an emesis of glairy mucus, yet it seemed to have no effect on the

bowels. The patient lived from the 11th of September to the 13th of November without having an evacuation from the bowels. During this period of two months and two days, or about nine weeks, she neither suffered from nausea, vomiting, nor distention of the bowels from gas or feces. Her diet for more than two months just preceding her death was almost exclusively of a liquid nature, she rarely taking any semi-solid food.

28th.—During the last few days the face had been turned to the right, and the head drawn toward the right shoulder. At this time she complained of great pain and soreness in the right and posterior portions of the neck. The parts were hard, swollen, and painful to the touch. An attempt, on my part, to straighten the neck greatly augmented her suffering. Pain was also complained of in the right eye and ear. The former was inflamed, and almost useless as a visual organ, and from the latter there was a constant discharge of yellow pus. The ocular inflammation involved more especially the conjunctiva and cornea. An ophthalmoscopic examination of the right eye was unsatisfactory on account of the hazy condition of the cornea and the uncontrollable movements of the eyes. The watch was not heard by the right ear, except on firm pressure.

October 3.—She was blind in the right eye and deaf in the right ear. The discharges from the eye and ear continued.

13th.—She remained quiet during the day, but required two grains of morphia to induce sleep at night. The hearing in the left ear varied; at times she heard tolerably well with this ear, and at others she was almost deaf. No improvement in the right eye and ear. A semi-choked disk appearance was noticed in the left eye, and vision was nearly gone. The left eye showed no evidence of external inflammation. No discharge was noticed from the left ear.

November 11, 5 P.M.—Temperature, right axilla 95.5°; left axilla 98.2°; pulse 104; respirations, 28 per minute. The right side of the body felt quite cool. The breathing had changed from an intermitting to an irregular character, and constituted what is known as the Cheyne-Stokes' respiration, except that there was no lull, during which the hand could not detect feeble movements of the thoracic wall. The respiratory movements gradually became shorter until they were almost imperceptible, then they gradually lengthened until a full inspiration was taken with considerable effort, followed by a blowing noise. Every paroxysm, or rise and fall of the respiratory acts, included about eighteen respirations. She neither saw nor heard, and was no longer able to speak or swallow. The saliva was wiped from the mouth by the attendant, or she made an awkward and ineffectual effort to do it herself, showing that she was probably not entirely unconscious. Her urine was passed involuntarily. No morphia had been required during the last few days. The neck remained in about the same condition that it was on September 23d. The muscles of the left side of the face were paralyzed, the mouth being drawn well over to the right side.

She died, exhausted, November 13, 1881, at 12.30 P.M.

Post-mortem examination, three hours after death, by Drs. Mills, Bissey, and myself.

Brain.—The venous sinuses and arteries were carefully examined, but were found to present nothing abnormal. No lesion of the membranes was discovered. The pia mater was unusually transparent (almost bloodless). The optic nerves were normal in appearance, and no perceptible lesion was detected in the other cranial nerves. No effusion. Entire surface of brain examined through the transparent pia mater before its removal, and no pathological condition was discoverable. On stripping the pia mater from the right hemisphere, the external surface of the convolutions was still found to be intact. Before completing the process of removal of the pia mater from the right hemisphere a large quantity of a dirty grayish-white liquid suddenly escaped through a small opening at the bottom of a secondary fissure just in front of the upper extremity of the fissure of Rolando.

The right lateral ventricle was laid open by an incision through the lateral border of the corpus callosum. The surfaces of the intra-ventricular ganglia were healthy in appearance. The floors and roofs of the cornua showed no lesion. A longitudinal incision was made through the middle of the head of the caudate nucleus and the optic thalamus, deep enough to pass through these bodies and the lenticular body, just to the inner margin of the insular and sphenoidal cortical substance (gray matter). This incision exposed a small isolated abscess about one inch in length, three-quarters in depth, and one-third of an inch in width, involving the following parts from before backwards; the anterior two-fifths of the lenticular nucleus, and the adjoining portions of the external capsule and claustrum. The caudate nucleus, optic thalamus, and the entire internal capsule were not changed in appearance. The posterior three-fifths of the lenticular nucleus and a very narrow strip of its anterior two-fifths above the abscess were intact. Vertico-transverse sections through the pre-frontal and occipital regions showed no lesions. Further transverse sections revealed a nodulated mass and large abscess of the centrum ovale of the postero-frontal and parietal lobes.

The nodule was about the size of a large hickory-nut. It involved the white matter and the under portion of gray matter at a point corresponding externally to the superior parietal lobule or convolution, a little anterior to the middle of the inter-parietal fissure. Its anterior extremity just grazed the middle portion of the gray matter of the ascending parietal convolution. The nodule was apparently firm. The abscess extended on all sides of the irregular body, and the exact limits of the former were determined by transverse sections to be as follows: Its anterior extremity reached a point in the centrum ovale corresponding to a plane, just in front of the caudate and lenticular bodies, externally through the anterior halves of the first, second, and third frontal convolutions. Its posterior extremity reached a point in the centrum ovale of the parietal near the plane of the parieto-occipital fissure. The abscess in its anterior half involved white matter only, but close up to the gray substance. Its posterior portion involved the white matter, also the inner part of the gray substance of the adjoining convolutions. The posterior one-fourth of the abscess involved the gray matter to the greatest extent, and approached near the surface at the most posterior part. It had, therefore, destroyed the centrum ovale directly in relation with, *a*, the posterior parts of the first and second frontal convolutions; *b*, the middle regions of the ascending frontal and ascending parietal convolutions; *c*, the middle and lower portions of the superior parietal convolutions; *d*, the upper portion of the inferior parietal convolution. The gray matter destroyed was chiefly in the anterior parietal convolution and the superior parietal lobule. The entire length of the abscess was between four and five inches.

The left hemisphere showed no pathological lesions.

Thorax.—Heart and large vessels were normal in appearance. The apex of the left lung contained four cancerous nodules, varying in size from that of a lima bean to a horse-chestnut. The apex of the right lung was the seat of a nodule about the size of a hickory-nut. The middle and lower portions of the lungs were anæmic. The pleuræ were normal, except at the apices of the lungs, where slight adhesions were

formed over the nodular growths. Slight effusion in the left pleural cavity.

Abdomen.—The uterus, ovaries, and ligaments of the womb were the seat of fourteen cancerous nodules, most of which were not larger than a hickory-nut. The liver, spleen, kidneys, and pancreas were anæmic, but free from cancerous growths. The stomach was empty, pale, and contracted, but no induration of its walls was discovered. The upper and lower bowels contained a slight amount of fecal matter scattered throughout their entire extent. The contents of the bowels were soft. No evidence of intestinal obstruction could be detected. The rectum was empty.

Microscopical Appearances.—The nodule in the brain was composed of bloodvessels, brain-substance, extravasated blood, and blood-pigment. No cells of a suspicious character were seen.

Remarks.—The abscesses cannot be attributed to the presence of a cerebral tumor. The history of the removal of a malignant growth from the left breast one year before, naturally suggested to me the probability of a similar one in the brain. No local interference with the venous or arterial circulation of the brain was detected at the autopsy. As causative agents, apparently nothing beyond a profound lowering of the vital forces and the blood infection attendant upon the presence in the system of several cancerous masses were found. If in these lies a sufficient cause, I am at a loss to know why abscess of the brain is so infrequently found in connection with cancer of other portions of the body, or why it is not more generally associated with general anæmia.

Remittent respiration is referred to by Hughlings Jackson (Reynolds' *System of Medicine*), although he does not give it that name, and Cheyne-Stokes' respiration by nearly every recent author on nervous diseases, but I find no allusion to the peculiar intermittent variety found in this case, in which three or four respiratory movements of equal length and depth were followed by distinct intermissions varying in length from fifteen to eighteen seconds.

Just before the patient's death, when the respiration approached the Cheyne-Stokes' character, there was no period or interval of several seconds duration during which the respiration intermitted, but the movements were continued regularly, increasing or lessening as the efforts at respiration reached the maximum or minimum.

One or more cases with respirations differing from the Cheyne-Stokes' similarly to this may be found described in a joint paper presented at the Northern Medical Society of Philadelphia, by Drs. Mills and Ott. (*Phila. Med. and Surg. Reporter*, July 2, 1881.)

The abdominal respiration noted in the clinical history may be imitated by any one in health by first voluntarily expanding the abdomen, then allowing the chest to be inflated subsequently, the expiratory movements taking place in the order of time in which the inspiratory were effected. It differs from the form of abdominal breathing referred to by Hughlings Jackson in connection with cerebral hemorrhage. It is a grave omen, and is most commonly found in cases of great prostration, as in typhoid fever and shock, or it is associated with certain brain diseases attended by a similar condition of the vital forces.

The inflammatory changes that occurred in the right eye and ear, with the subsequent loss of vision and hearing in these organs, cannot be accounted for by any appreciable lesion in the pons, medulla, or at the base of the brain adjacent to the optic nerve. The well-known experiments of Waller, Bernard, and Brown-Séquard, on the effects of stimulation and paralysis of the cervical ganglia of the sympathetic nerve aid us in attributing the trophic changes found in the eye to the local trouble present in the right side of the neck, which preceded the affection of the organs of the special senses. I regret that we failed to examine the indurated tissues of the neck, and to ascertain the condition of the sympathetic nerve and ganglia in this region.

The general cerebral and thermometric records of this case present some points of interest.

General Thermometry.—According to the physiological experiments of Hitzig, Eulenberg, and Landois (quoted by Mills, *Phila. Med. Times* for January 18, 1879), the heat-controlling centres are situated in the cerebral cortex of the motor regions around the fissures of Rolando, especially in the ascending convolutions. Usually, but not constantly, destruction of this area gave rise to increased, and irritation produced lessened, temperature in the extremities of the opposite side of the body. In the present instance the large abscess involved to some extent the supposed thermic area of the right side. Comparative observations of each axillary temperature were made on seven different occasions, and were as follows:

	Right Axilla.	Left Axilla.
September 8,		99°
" 12,	96°	99.4°
" 13,	97.9°	98.4°
" 14,	97.9°	98.2°
" 19,	97°	98°
" 22,	97.6°	98.2°
" 23,	98.9°	98.2°
November 11,	95.5°	98.2°

The temperature of the right or non-paralyzed side of the body only once exceeded that of the left, when the thermometer registered .7° higher in the right than in the left axilla. The temperature of the left armpit ranged from .5° to 3° higher than that of the right. During the first shock to the system, produced by the abscess, and just before death, when paralysis was most complete, the difference between the two sides of the body heat was greatest, being 3.4° at one time, and about 3° at another.

Cerebral Thermometry.—I shall only refer to the extended observations of Broca, Gray, and Maragliano, and Sepelli, on cerebral thermometry in health and disease. Their conclusions are in harmony with each other, and their utility has been demonstrated by observations made on at least two cases of tumor of the brain, one by Dr. Charles K. Mills (*Phila. Med. Times*, Jan. 18, 1879), and the other by Dr. Landon Carter Gray (Hamilton's work on *Nervous Diseases*, 2d ed., page 22), who was the first in this country to investigate the surface temperature of the head in health. Dr. Gray found the average normal temperatures of the stations on the left side of the head to be for the frontal, .65°; for the parietal, .85°; for the occipital, .72°, higher than those of the corresponding stations on the right side. He gave as the average normal temperature of the right frontal station, 93.71°; of the left, 94.36°; of the right parietal, 93.59°; of the left, 94.44°; of the right occipital, 91.94°; of the left, 92.66°. Variations of more than 1.5° he considered suspicious of disease at that point, and of more than 2° strong evidence of a pathological condition.

Comparing the results of the surface temperatures of the head made on the case reported at length in this paper with those reported by Gray and others, we shall find several points of difference. The temperatures were from 2° to 4° higher than those obtained on the heads of healthy subjects, although the axillary temperatures of this case, taken at the same time, were normal or subnormal. The temperatures at the several stations on the left side of the head exceeded those on the right by about .5°, which is nearly in accord with

the normal difference. The temperature at the left Rolandic station was .2° lower than that of the right on one occasion only. With this exception, the temperatures on the left side were the highest. On September 23, when paralysis of the left side of the body was complete, the surface heat at the left posterior frontal station was 2°, and at the left parietal 1.5° greater than at the corresponding stations on the right side. Before complete paralysis had taken place in the left leg, there was nearly an equal increase of heat at the frontal and posterior stations; later, when the leg was powerless, the temperatures of the posterior stations exceeded their normal more than did those of the anterior. In the observations on cerebral thermometry in connection with brain tumors made by Drs. Mills and Gray, the stations nearest the growths, both of which happened to be on the right side, gave the highest average increase of temperature.

The area to which the occluded vessels in embolic hemiplegia are distributed is said to have a subnormal temperature.

I am not aware that the results of any observations of the surface temperature of the head made on persons suffering from abscess of the brain have been reported. No valuable conclusions can be drawn from observations made on a single case; especially is this so when the surface temperatures of the head are not more frequently taken than in the history of the one just reported. In health, the head temperatures are from 4° to 6° lower than that of the axilla, being lowest posteriorly. In the present case, with a normal or subnormal axillary temperature, the head temperatures were elevated from 4° to 6° above their normal, the occipital, in one instance, being the highest, equalling the axillary, and exceeding its own in health 6°.

Dr. Allan McLane Hamilton, of New York, has reported the results of his observations on a case of meningitis, in which the occipital temperatures exceeded those of the other regions of the head. (*Ibid.*)

It is doubtful whether the local temperatures of the head in abscess of the brain will aid us in locating the disease to any particular region, but if the results of the observations already made on cerebral thermometry in brain tumor be sustained by future investigations, the surface thermometer may help us in differentiating abscess from tumor of the brain.

In a case of brain trouble, in which the diagnosis is between tumor and abscess, a limited surface area of one side (especially the right) of the head with a temperature considerably elevated above the heat of the surrounding parts, would point to tumor; whereas, an elevation of the entire cerebral surface temperature would indicate abscess.

The direction of the destructive lesion in the brain, if we may judge by the progress of the paralysis, was from before backward, showing that the nodule occupied the region last involved, instead of the first, as would have been the case if it had been caused by an embolus, and had in its turn given rise to the abscess.

CASE II. *Abscess of the brain following chronic meningitis: sudden death.*—On the notes of Dr. Dennis the history of the following case is based:

Mr. G. S., æt. 56, shoemaker, served in the German army, and when a young man led an irregular life. He presented no marks of syphilis, and no history of his having suffered from that disease could be ascertained. He had always been a moderate drinker of beer, but never indulged in the stronger alcoholic liquors. He was a large, heavily built man, and, with the exception of occasional headaches, had enjoyed good health until the latter part of the year 1880, when the loss of his wife, followed by other domestic unhappiness, seemed sufficient to disarrange an already ill-arranged nervous system. His temper had been irritable for many years, but now he became subject to frequent outbursts of passion, during which he would vent his spleen on any one who chanced to be near him. His memory became very treacherous, often getting confused in his business, and even at times being unable to remember the day of the week. His headache became constant and more severe.

During the spring and early part of the summer of 1881, he had what he called "rheumatic attacks," during which, while attending to his usual duties, he would be seized suddenly by a sharp pain in the course of the left sciatic nerve, followed by immediate paralysis of the left arm and leg, compelling him to sit down to save himself from falling. During the attacks he did not lose consciousness. The paralysis never lasted longer than a few minutes, power of motion returning and seeming to be as good as before the shock. The frequency of the hemiplegic seizures, two or three attacks often occurring weekly, depended upon causes giving rise to outbursts of passion. Sudden changes of weather were apparently associated with the nervous disturbance.

His symptoms remained unchanged until the latter part of October, when, in a fit of anger, he fell to the floor, frothed at the mouth, and became convulsed. No paralysis followed the convulsion, but the headache steadily increased, compelling him to take to his bed. As on this, so on every succeeding, day during his entire illness, he remained in bed only a portion of the day. The head-pain now constant was so severe that it prevented continuous sleep, and from short naps which he would occasionally get, he would be awakened suddenly by violent exacerbations of pain. Two weeks before his death, Dr. Dennis was requested to take charge of the case. His temperature at this time was 99.5°; pulse 70 per minute, full and strong; respirations natural; appetite capricious, tongue coated, stomach intolerant, and bowels obstinately constipated. Urine scanty, high colored, and free from albumen, was voided voluntarily until a short time before his death, when it was occasionally passed involuntarily. The skin was slightly jaundiced. He complained of occasional chills, and was very sensitive to changes in the atmosphere. Nocturnal delirium soon began. He was very restless, saw strange things and people in his room, and would occasionally rise during the middle of the night and awake the whole family, telling them that it was time to get up for the day. At times his mind seemed to be a blank, he could not tell the day of the week, and would frequently be unable to distinguish day from night. On other occasions his mind was clear, but during these lucid intervals he could converse intelligently and connectedly for a few minutes only, thought ceasing to be generated, when a vacant stare would be his only reply to questions which a few minutes before he had answered promptly and correctly. Impressions were persistently and obstinately adhered to, and any attempt at persuasion to the contrary was not calmly received. His headache, principally frontal and right-sided, was now sharp and lancinating, requiring hypodermic injections of morphia and atropia to relieve it. The orbital and other branches of the fifth nerves were very sensitive to pressure. His temperature during Dr. Dennis's attendance, though usually above the normal, reached 100° Fahr. only on two or three occasions. The muscles of the left arm and leg were decidedly weaker than those of the right, yet sufficiently strong in the leg to support his weight for a short time. Turning in bed was difficult. When the left arm unaided was held at right angles with the body a decided muscular twitching began. Occasional muscular twitchings took place when the arm was passive. He thus continued, gradually getting worse, until November 25th, about five

weeks after his giving up work, when Dr. Dennis requested me to see him in consultation.

When I first entered the room he seemed bright, and conversed intelligently. He had not talked long, however, before he began to hesitate in his answers, appearing to have difficulty in understanding me, and being more puzzled in framing answers to my questions. Soon he was unable to form more than one or two words of a sentence, and finally uttered a meaningless "yes" or "no," or stared vacantly, when spoken to. Pupils were small and equal in size, brows were contracted, and he complained of great pain in his head. The eyes were very sensitive to light, making it extremely difficult to make an accurate or satisfactory ophthalmoscopic examination. The acuteness of vision and the condition of the other special senses could not be ascertained. The retinæ were found to be slightly hyperæmic, and the optic disks somewhat swollen. No muscle or groups of muscles were paralyzed, but those of the left arm and leg were weak, and an attempt at coördination produced a muscular tremor. The left side of the face was apparently less expressive than the right. The heart, lungs, liver, and kidneys showed no evidence of disease. Temperature was 100°; pulse 68, and full; respirations 16 per minute. An opinion was given that the man was suffering from chronic meningitis of several months' duration, and that a recent complication of softening or abscess of the brain had taken place.

The next day Mr. S. was feeling so comfortable that he got up, dressed himself, and without assistance went down stairs from the third to the first floor to dinner. After eating he was helped to his third-story room. He expressed himself as feeling tired and sleepy, and lay down to rest. He was left alone about one hour, when one of his daughters looking in his room found him on the floor, where he had fallen in getting out of bed. The left side was now found to be entirely paralyzed. He was placed in bed and left alone. Shortly after this, when looked after, he was found asleep and snoring loudly. As his repose was supposed to be a natural one, he was not immediately disturbed. About 6 P.M. the daughter, thinking it strange that nothing was heard from her father, went into his room and endeavored to arouse him, but to her surprise found him dead.

Post-mortem examination thirty-six hours after death.

Brain.—The dura mater over the entire extent of its bony attachment, was inflamed and firmly adherent to its osseous envelope. At the base of the brain the external membrane was so closely attached that it could be separated from the bone only in piecemeal by the scalpel. The cranial nerves were apparently uninvolved in the diseased process. No abnormal quantities of fluid were found in the subarachnoid space. The bloodvessels of the pia mater were engorged, and the membrane was slightly adherent to the brain substance. The entire external surface of the brain appeared nearly normal, presenting no gross lesions of softening. Superficial portions of convolutions in the neighborhood of the greatest amount of inflammation were examined under the microscope, and found to be in nearly a normal condition.

An abscess was found on the right side involving chiefly the centrum ovale of the pre-frontal region, but also to some extent, in its middle part, the inner layers of gray matter of the first, second, and third frontal convolutions. On attempting to localize exactly the posterior limits of the abscess, it was found that a vertico-transverse section through the anterior lobe made just in front of the pre-central fissure externally, and striking the anterior extremities of the ganglia internally, just grazed its posterior limits. The abscess extended forward to within one inch of the anterior extremity of the lobe. Very few, if any, of the white fibres from the ascending frontal convolutions were involved. At the posterior and interior boundaries of the abscess a bloody nodulated mass two-thirds of an inch in its greatest dimensions was found. Other portions of the brain were apparently healthy. No emboli or thrombi were found.

The abscess did not communicate with the lateral ventricle, nor open upon the external surface of the brain to account for sudden death.

Microscopic examination of the nodulated mass and adjacent parts showed no new cell formation tissue; the nodule and the parts around exhibited nothing besides disintegrating brain tissue with its bloodvessels, and a few blood corpuscles.

Remarks.—We cannot boast of our knowledge of the functions of the antero-frontal lobes, yet pathology, and later, physiology, have from time to time thrown some light on this obscure subject. The "crow-bar case" of Bigelow, the bullet wound related by Trousseau (quoted by Ferrier), the other cases mentioned, analyzed by Charcot and Pitres (reviewed by Ferrier, and quoted by Mills, *Phila. Med. Times*, Jan. 18, 1879), the tumor of the right antero-frontal lobe presented to the Pathological Society of Philadelphia, by Dr. C. K. Mills (*Transactions of Phila. Pathological Society*, vol. ix. page 106), and the lesion just described in connection with Case II. of this paper, in all of which the antero-frontal lobe was destroyed to a greater or less extent without any paralysis attributable to the lesion in this region, lead us to accept the conclusions of Charcot and Pitres, that motor disturbances of the slighest character do not necessarily follow lesions in the antero-frontal regions.

For the light physiology has shed upon the function of this region of the brain, I quote from Dr. Mills' article on tumor of the brain (*Phila. Med. Times*, Jan. 18, 1879): "Ferrier, *Functions of the Brain*, p. 230, in his experiments on the antero-frontal regions of the brain of the monkey, generally obtained negative results. Electrical irritation usually caused no special manifestations. Removal or destruction was not followed by any definite physiological results. The animals operated on, however, while not actually deprived of intelligence, had apparently lost the faculty of attentive and intelligent observations. When considering the hemispheres physiologically, Ferrier argues also that the power of fixing the attention and concentrating consciousness depends on inhibition. He shows that if the centres of inhibition, and thereby the faculty of attention, are weak, or present impulses unusually strong, volition becomes impulsive rather than deliberate."

It will be remembered that the patient in Case II., where the lesion was in the antero-frontal lobe, presented symptoms in accord mainly with the physiological experiments of Ferrier. The man was emotional and passionate, and his power of attention was weak and of short duration. He seemed at times to lose will power. Only temporary paralysis was observed, and this always after some fatigue, which may have induced some restraining influence from other portions of the brain, or what is probably more correct, as some of the fibres connecting the motor region of the brain with the muscles of the arm and leg were destroyed, the remaining healthy fibres became exhausted from overwork.

Among the other interesting features of the second case are, the sudden death and the patient's ability at times to walk well, although at others the paralysis was so extensive that he was not able to stand.

That he was able to walk at all was apparently due to the fact, sustained by the post-mortem examination, that not all of the fibres through which motor impulses

passed from the brain to the muscles of the leg were involved in the destructive process. When he was resting, a few fibres, for a short time, could do the work of a greater number.

If this view be correct, it will enable us to explain the cause of sudden death, although there was neither hemorrhagic apoplexy, nor bursting of the abscess into the ventricles, or on the surface of the brain. The unusual strain that he put upon his crippled brain a few hours before his death, in descending and ascending two flights of stairs, and in sitting up to eat his dinner, so exhausted his nerve centres that its effects came like a shock from a severe cerebral hemorrhage. The occurrence of the hemiplegic seizures may be accounted for, probably, by the sudden overloading of the congested vessels of the brain during his fits of anger.

CASE III.—*Abscess of the brain; gangrenous inflammation of the right Sylvian artery, and occlusion of some of its branches; facial erysipelas; pneumonia in the left lung.*

J. R., male, aged about forty, laborer in a sugar refinery, had been sick and delirious for several days, was brought into the St. Mary's Hospital during the past winter, in an unconscious condition. His previous history could not be ascertained. His respirations were rapid and abdominal; pulse small, weak, and irregular; temperature not taken. No urine was obtained for examination. His face was swollen and of a dark erysipelatous hue. The swelling around the eyes was too great to admit of an examination of the pupils. The facial swelling and comatose condition prevented the detection of local palsies, if such existed. He did not regain consciousness, but died about six hours after his admission.

Autopsy eight hours after death.—The abdominal cavity was not opened. The entire left lung was in the second stage of pneumonia; the right lung and the heart were in nearly normal conditions. Only slight quantities of serous fluid were found in the pericardium and right pleural sac; considerable fibro-serous effusion was found in the left pleura.

Brain.—The dura mater was slightly congested, but there were no evidences of decided inflammation in it. The pia mater covering the convex surfaces of both hemispheres, and that beneath the right, was opaque. Its bloodvessels were highly engorged, and deposits of lymph and pus were found. At and just posterior to the right Sylvian fissure there was a considerable quantity of pus, and sufficient lymph to so mask the structures at this point as to make them look like one mass of inflammatory products. The trunk of the Sylvian artery was almost black, its calibre lessened, but apparently not entirely obliterated. Some of its secondary branches, especially the lower ones from the parieto-sphenoidal and sphenoidal arteries were occluded and seemingly gangrenous. After carefully removing the pia mater, the convolutions and brain substance of the left hemisphere appeared nearly normal. The under and external surfaces of the right temporo-sphenoidal lobe, from its anterior tip to its junction with the occipito-parietal lobules, were softened to the depth of about an eighth of an inch. A superficial abscess or a mass of softened brain substance, about one inch in all its dimensions, occupied the anterior extremities of the first, second, and third temporo-sphenoidal lobules. The contents of the abscess were, in the centre, a watery fluid, surrounded by broken-down brain substance and blood constituents, and, on the outside, a thick layer of pus and other exudative matter. The cranial nerves were but little encroached upon by the inflammatory deposits. Nothing special was noticed in the sinuses of the brain besides their blackened and engorged appearance. The ganglia were apparently normal.

The patient was under observation only six hours before his death. The circumstance of his death was investigated by the coroner, which necessitated great hurry in examining the brain and its membranes and sinuses.

DR. CHARLES K. MILLS said: A careful examination of the cerebral sinuses might have thrown some additional light upon the third case. It was of great importance in all cases of abscess of the brain to investigate the condition of the sinuses of the dura mater. Abscess and thrombosis were not infrequently associated, and sometimes held to each other a causative relation. In the account of the condition of the patient (Case III.) it was stated that his face was swollen, and of a dark erysipelatous hue, the swelling around the eyes being too great to admit of an examination of the pupils or of the interior of the eyes. The erysipelatous appearance may have been the pseudo-erysipelas which accompanies some forms of cerebral thrombosis. The ophthalmic veins end in the cavernous sinuses. These veins have also a communication with the veins of the face. The facial vein, beginning on the anterior portion of the head, descends about the middle of the forehead, as the frontal vein, to the root of the nose, and then is continued downwards around the angle of the eye, under the name of the angular vein. This angular vein communicates with the ophthalmic vein. Hence it will be seen how swelling of those veins outside of the skull, which inosculate with the sinuses within, may become the most striking and positive signs of obstruction of the sinuses. Œdema of the eyelids and face, and congestion of the eyes, mean venous stasis in the parts drained by the ophthalmic veins. These phenomena were present in Dr. Eskridge's third case.

These three cases of abscess of the brain, well studied and described, constitute a valuable addition to the literature of intra-cranial diseases.

CORRESPONDENCE.

LETTER FROM BERLIN.

The Gesundheits-Amt; its Workers and its Work.

NUMBER 57 Louisen Strasse is a plain, substantial building, not differing in the least from ten thousand other plastered bricks in this city, and found by the stranger only by special direction to it. It is in fact an ordinary house, rented and used by the Gesundheits-Amt or Health Office of the State—a creation of Bismarck's within the last two years. Yet in this unpretentious building was worked and from it was published the discovery which marks an epoch in the history of our science; to wit, the parasite of tubercle by Dr. Robert Koch.

When a year ago Dr. Finckelnberg was called away to take a higher place, no name seemed so prominent in this field among the younger workers of the land as that of Dr. Koch, then in practice at Wollstein, a little town about midway between Breslau and Berlin. He had already made a reputation in Parasiten-Kunde by his work upon milzbrand and the surgical infections, but it was confined chiefly to among his associates in this particular field of work. It seemed, however, to Dr. Struck—Ober-Geheimer Medizinal Rath is his justly earned title—the present Director of the Health Office, that Dr. Koch was the man for the place, and accordingly hither he was called to take his place as a Regierungs Rath among several other workers in the field of hygiene or public sanitation. How fit the selection was has just been proven by the publication of the discovery of the parasite of tubercle, which

implies the unveiling, we might say, of the greatest mystery of our age.

The Gesundheits-Amt here differs in its methods of work as widely as in its construction and arrangement from any ordinary health office in our country. Many poisons find their way into it, and many are discovered in it, but the poison of politics never pollutes its walls. Whether the Liberal or Conservative is triumphant, it will have no effect upon the occupants of this place. Hence appointments are permanent and are salaried, too lightly it is true, but nevertheless at such a rate as to relieve its employés, if such a term is proper, from the vulgar struggle for subsistence. Hence, too, its work is purely scientific, and the publications regularly issued from it rank at once as authoritative upon the subjects they discuss. The various rooms in the house are differently occupied by chemists, pathologists, etc., each having his own set of compartments and assistants. Just across the street is the Charité, whence to derive any kind of material for examination, and adjoining on the south is the large veterinary college with a full corps of teachers to supply material of its kind.

Dr. Koch's apartments proper consist of a suite of connecting rooms, a kind of flat, as it were, in which there are at present five workers besides himself. These workers are representatives, or, I might say, delegates, from different departments of the house or from foreign governments. For instance, there is one here now from the Saxon, one from the Hungarian government, and one from the German marine service. Each one, like Dr. Koch, has his own desk, separated from the rest by projections of shelves and drawers, as in a well-filled library, covered and filled with specimens and tools. Perhaps the most striking furniture of the rooms is the array of test tubes; by the hundred they are here, each partly filled with sterilized substances, gelatine or blood, and each stopped with a plug of cotton which has become brown in the process of sterilization. The tubes contain the parasites of many known and described, and many as yet undescribed, diseases of animals, growing in the culture substance, and abstracted daily for inoculative experiments, or for further cultivation in fresh material. These tubes crowd the shelves and stands in every direction, but never in the least confusion, as each is distinctly labelled as to contents and date of preparation.

In the centre of each worker's compartment, at a window, of course, stands, with all its appurtenances, a first-class microscope, mostly of the manufacture of Zeiss, of Jena, one only of Hartnack, of Potsdam, who has only now perfected his instrument with the oil immersion lens and Abbè illumination apparatus, necessary factors for this kind of work. A first-class instrument of this class costs here, I may add in a parenthesis, $125 to $150, Hartnack's being now just as good as Zeiss's, and a little cheaper. This instrument so arranged is a *sine quâ non*. Without it, it is not impossible, it is true, but it is not easy to define the bacilli of tubercle when but few are in the field.

These delegates, by the way, are not students of medicine in the ordinary sense of the word, nor are they practitioners, but men of science, all of medical science, of course, who expect to devote their lives to this kind of work. A mere association with this class of men is an education of itself, for it is the pure school of observation. Nothing whatever is taken for granted; nothing is inferred or deduced or reasoned out or speculated upon. Everything is simply examined and described. Dr. Koch is the referee in questions of doubt, and, so far as I have been able to see, he can determine any ordinary matter of doubt at a glance. For instance, two of us worked in vain a whole day over the tubercle parasites in a specimen of sputum, and finally in despair called him in. He noticed at once that the shade of one of the color tests was not correct, and at once declared that we had used an alcoholic instead of an aqueous solution, which was true, and which was the cause of failure. Of course there is nothing new or strange in this quick detection of the source of error, as it is the natural consequence of the study of years, of one, at least, with the same or similar reagents.

Work commences in the laboratory at 9 A. M., adjourns at 3 P. M. for dinner, is then resumed to continue until 5. But on Sunday the work ceases about noon. The Director of the office makes a general assignment of the work, but each man is left pretty much to himself. So one man will be found engaged with tuberculosis, another with milzbrand, a third with the organs of some animal which has died at the veterinary stables, another with the analysis (not chemical, for this takes place elsewhere, but mycological) of drinking water, or of soil, perhaps, sent in from elsewhere, etc. To-day there is an interruption, as Drs. Koch and Gravitz have been sent to Wittemberg to study the etiology of an epidemic of typhoid fever which is just announced, but the work by the rest goes on just the same.

Just how this work is done, and with what result, I propose to write again. Only this much I ought to say now regarding the bacillus tuberculosis, namely, that it is a fixed fact, and is capable of the most complete and convincing demonstration. Dr. Koch was called before the Emperor, just before his departure to Ems, and I have it, from outside parties, that the deepest interest was shown in the demonstrations.

J. T. W.

BERLIN, June 25, 1882.

LETTER FROM CANTON.

Medical Progress in China.

THE Sleep of Ages rests upon the doctors of China. How deep that sleep is can be imagined if one will go back to the dark ages of Europe, when superstitious ignorance controlled the administration of medicines. Accustomed to regard the Chinese as an inferior race, we may not wonder that they are satisfied with the crude notions of their ancestors of a hundred generations back.

But it is a question yet to be decided whether they are the inferior race. In literature, the arts, and commerce, they take the lead of all the nations of the East, and in diplomacy their statesmen have shown themselves a match for the best men they have met from Europe and America.

Moreover, a few thousands of ignorant peasants have gone to Australia and California, taken up the industries of the people, and in a quarter of a century have monopolized some of the most important trades and occupations. Not only so, but the statesmen of the two great Anglo-Saxon nations have been driven to their wits' end to devise means by which to protect the so-called superior race from the encroachments of these heathen peasants. The recent measure adopted by Congress will only add to the confusion of California's Senators and Representatives. Thus far, against all disadvantages, the illiterate Chinaman has the best of it, and will continue to hold his ground as long as he is a sober, reliable, industrious, painstaking workman, and his competitors waste their money, strength, and character in the drinking saloons.

Hitherto it has been for the most part peasants who have come in competition with the laborers of foreign countries; but other classes are slowly coming forward. Chinese merchants are beginning to adopt foreign modes of doing business. Steamships and insurance companies are established by them, and the advan-

tages of the telegraph are not neglected. The professions of law and medicine have their representatives, and it is among the possibilities of the future that members of these professions in Europe and America may have for competitors enterprising Celestials who, imitating their more illiterate countrymen, shall push their way into those countries where they will find more activity, more life, and more dollars.

There is now in Hong Kong a Chinese who practices in H. M. Courts, and another has just returned to that colony from England who has taken degrees in both law and medicine, and is qualified, under English law, to practice either profession or both, as he pleases. For a number of years the position of physician to the European community in this city was held by a Chinaman, the late Dr. Wong Fun, who took his degree in Edinburgh.

The question as to which is the superior race cannot be finally decided until the educated classes of China have adopted our professions, and stood in competition with our best men in the great arena of life.

In view of the national and individual characteristics of the people, we cannot but wonder that the healing art should have remained very much as it was ages ago. Experimental medicine has nowhere had such vast opportunities. During all these centuries innumerable doctors, having untold millions of willing patients, have administered to them all the medicines which the three kingdoms of nature could furnish. We cannot cease to wonder that empirical medicine, under such circumstances, has so little to offer to the world, as valuable additions to our means of combating the diseases common to the human race.

The explanation is not difficult to find. Among all their wise men and sages, they have had no Bacon or Locke to teach them the true mode of investigation. With blind reverence for antiquity, the *very multitudes* of the people have destroyed individuality of character, and fixed custom in medicine as an unchangeable law which no one was strong enough to set aside. Of course without anatomy and physiology it was impossible to have anything like a scientific system. And the native faculty have yet to make a beginning in these departments.

While the sleep of ages still rests undisturbed upon the great mass of the doctors of the Empire, the people are beginning to be aroused by the influences brought to bear on them by contact with Western nations.

The translation of medical books has placed within the reach of scholars the outlines of the several branches of study in the medical course.

The military and civil hospitals established by the English and French in such places as Hong Kong and Shanghai, and the missionary hospitals in successful operation in more than a dozen cities of the Empire, have presented to the people the advantages of treatment as practised in these institutions.

The attempt has been made to imitate these institutions, and they have spent money liberally in erecting buildings in Hong Kong and Canton, but beyond the practice of vaccination there is no disposition to give up native practice or adopt foreign.

A few young men have acquired a knowledge of Western medicine and surgery, and some of these have made reputations which gave them a high standing. The first and most prominent of these was Kwan Ato, a pupil of Dr. Peter Parker, the founder of medical missions in the East. He died some years ago, in this city, leaving quite a fortune acquired by his practice. He was the first, and for many years the only, Chinese who ventured to perform surgical operations. In ordinary cases, requiring little anatomical knowledge, he was a skilful surgeon, and he did much to recommend Western surgery and medicine to the people.

There are many others who have acquired considerable practical knowledge of medicine and surgery in the various missionary hospitals now in operation, and there will be a regular increase in their numbers as better facilities for their instruction are placed before them in medical schools, equipped with qualified instructors, suitable apparatus and text-books up to the recent advancement of the various departments. It is the day of small things with my medical class of a dozen pupils in a city of one million inhabitants, but some of my successors may stand before classes as large as any now seen in the cities of Europe or America.

J. G. K.

CANTON, CHINA, May, 1882.

MEDICAL EDUCATION IN OHIO.

To the Editor of THE MEDICAL NEWS.

SIR: I desire to present the position of the Columbus Medical College, in relation to the charges made against the said College by Dr. James E. Reeves in his address before the West Virginia State Medical Society. This I am impelled to do by an editorial notice in your journal of July 8, 1882.

In January, 1882, A. M. Dent, of Weston, West Virginia, applied for admission into the Columbus Medical College as a candidate for graduation. He stated he had just been rejected on his examination before the State Board of Health in West Virginia, and that this rejection would destroy his practice, and be ruinous to him. He was informed that but five or six weeks of lectures would be given before the close of the term, and that no concession in his behalf could be made in the matter of examination, and if he became a candidate he would be obliged to pass the same examinations in all branches which the other members of the class submitted to in order to receive their diplomas.

He said all he asked was the privilege of making the attempt, and if, during the remainder of the term, he could not, by hard study, pass the examination, if rejected, he would make no complaint; all he desired was to be placed on the same ground as the rest of the class.

A. M. Dent had attended a course of lectures in 1874 or thereabouts in Starling Medical College while three of the present members of the faculty of Columbus Medical College held chairs in that College, and he exhibited the tickets of the College in evidence thereof. He presented his certificate of membership of the West Virginia State Medical Society. Before he could become a member, being a non-graduate in medicine, he was examined as to his fitness for membership of said Medical Society by the Censors of the Society, and by them recommended and was elected.

In 1879, he presented a paper before the West Virginia State Medical Society, which may be found in the Transactions of said Society for that year.

He presented the certificate of the West Virginia State Medical Society, showing that he had been elected or appointed a delegate from the said Medical Society to represent it in the American Medical Association, which met in 1881 at Richmond.

He had also during the same year been appointed one of the Trustees of the West Virginia Lunatic Asylum by the Governor of the State.

He brought the certificate of two prominent and reputable physicians of West Virginia, testifying to his regular professional standing, his general reputation as a physician, and good social position in the community in which he lived.

In view of all the above-mentioned circumstances, he was admitted to the College as a candidate for graduation. At the close of the term he was examined with the rest of the class, orally by some chairs, in writing by others.

In practice of medicine, 100 being perfect, his grade was 75, in therapeutics 80, in obstetrics 90, in surgery "very good." His grades in anatomy and physiology I cannot give. The course in chemistry had closed when he entered the school; whether the professor in this department examined him or not, I do not know.

The Professor of Surgery was a member of the State Board of Examiners who passed upon the qualifications of the regimental surgeons of Ohio, during the late war. He says of hundreds of papers he then examined, the average was no better than Dent's final examination for the degree.

Under these circumstances the Faculty of Columbus Medical College believed they were justified in granting A. M. Dent a diploma, nor do they believe they have done harm to the profession by admitting A. M. Dent to the profession, and its honors and privileges under the diploma of the Columbus Medical College.

As to "short time" in the course of medical lectures, the members of the Faculty are aware that it has been the custom of many colleges in the country to use their discretion in the matter of insisting upon "full time" of attendance upon lectures, when conferring degrees, when good cause could be shown for favor in this direction.

A. M. Dent was not guilty of the anatomical errors mentioned by Dr. Reeves; on this point the certificate of the Professor of Anatomy which Dent has is conclusive. Those making the errors mentioned are unknown to the Faculty, for no such examinations were reported to them. The entire Faculty signed the diplomas; no objections to doing this were made by any member of the Faculty.

Such is the position of the Columbus Medical College in relation to the charges made by Dr. J. E. Reeves. The College has done no intentional wrong. The College will ever insist upon the same standard for the acquisition of its diploma which all other medical colleges in this country deem necessary to secure theirs.

D. N. Kinsman, M.D.,
Dean of Columbus Medical College.

Columbus, O., July 13, 1882.

DR. GEORGE McCLELLAN'S TUBULAR NEEDLE.

To the Editor of The Medical News.

Dear Sir: In your issue of July 15th is figured a tubular needle devised by Dr. George McClellan for the pocket-case. If Dr. McClellan will refer to the *Medical and Surgical Reporter* for September 14, 1878, he will find a newly arranged and very compact pocket-case devised by myself, in which, among other improvements, this identical instrument is introduced. In addition to the uses which he points out, he will find it very useful, as there described, in passing harelip pins, during the withdrawal of the needle.

Very truly yours,
W. W. Keen, M.D.

Philadelphia, July 17, 1882.

NEWS ITEMS.

VIENNA.

(*From our Special Correspondent.*)

Billroth's Festival.—The event of the past week has been the celebration of Billroth's declination of Langenbeck's Chair of Surgery in Berlin. The midday reception was held in the aula of the old University, and was replete with everything that is comprehended under the term of "Teutonic splendor." The Faculty of Medicine and corps of teachers attended in body, and representatives of the other faculties were present. The elder son of Prof. Carl v. Braun Fernwald delivered the address upon the part of the medical students and Faculty of Medicine. The address was strong, but in good taste, and bore the name of Duke Dr. Theodor, of Bavaria, as the first of the undersigned students. Billroth's reply was characteristic in its clearness, conciseness, completeness, and elegance of diction. In one portion of the reply Billroth said, "The highest distinction in my call to Berlin lay in the fact that my beloved master, Langenbeck, to whose eminence I cannot hope to attain, selected me from among all his pupils as his successor. I hold this, in fact, as the highest honor which has formed part of my life, already rich beyond desert in recognitions and distinctions." The torch-light procession in the evening of the same day assumed such gigantic proportions as to resemble the civic processions of mediæval Vienna. "Truly," in the language of a citizen of the Imperial City, "the Billroth Day forms a beautiful page in the history of the Vienna University.

Election of Rector-Magnificus, Vienna University.—The Academic Senate and electors of the four Faculties of the Vienna University assembled during last week to elect the Rector-Magnificus for the coming year. After a perfectly amicable congress, Hofrath Dr. Friederich Maassen was elected Rector-Magnificus of Alma Mater Rudolfina for the academic year of 1882–'83. Dr. Anselm Ricker, the present Rector-Magnificus, will officiate during the same period as pro-rector.

Prof. Henry J. Bigelow's Monograph, "Die Moderne Lithotrite."—Prof. Bigelow's treatise upon "Die Moderne Lithotrite" has been severely and justly criticised in "respect to the German employed," though the merit of the matter of the book is freely acknowledged.

Health in Michigan.—Reports to the State Board of Health, for the week ending July 8, 1882, indicate that diarrhœa and puerperal fever have considerably increased, that diphtheria, cholera morbus, remittent fever, and measles, have increased, and that bronchitis, rheumatism, and cerebro-spinal meningitis have decreased in area of prevalence.

Notwithstanding the increased prevalence of diarrhœa, it is still far below what is usual at this season of the year; and the unusually cool summer is also noticeable for the greatly lessened prevalence of intermittent fever; the per cent. shown in this bulletin being 76, whereas in June and July, 1879 and 1880, over 90 per cent. of the reports received stated its presence.

Including reports by regular observers and by others, small-pox was reported present during the week ending July 8, and since, at 4 places, as follows: at Grand Rapids (one death, July 8, one new case, July 9), at Detroit and at Flint (13 cases), at Lansing (one case), July 12.

American Medical Association.—The Committee of Publication have adopted the following rules, to ensure promptness in the appearance of the forthcoming volume of transactions:

1. All addresses and papers read at the recent meeting of the Association, and referred to the Committee of Publication, must be in the hands of the Permanent Secretary before July 31.

2. The transactions will absolutely go to press August 5, and all papers or addresses entitled to appear in the volume, not received by July 31, cannot be inserted.

3. Under no circumstances will the Committee permit new material, different from that in the original manuscript, to be added to the proof-sheets.

The following provisions of the by-laws of the Association will be strictly enforced:

"Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association, and shall be published and sold for the exclusive benefit of the Association."

"Authors of papers are required to return their proofs within two weeks after their reception, otherwise they will be passed over and omitted from the volume."

The New York Code.—The Jefferson, Oneida, Seneca, and Chautauqua County (N. Y.) Medical Societies, at their late meetings, repudiated the State Society's New Code and reaffirmed their allegiance to the National Code. The Clinton County Society has joined the Tompkins County Society in adopting the New Code. The statistics, so far as heard from, stand twenty-eight County Societies against the New Code to two in favor of it.

Introduction and Prevention of the Spread of Contagious Diseases by Immigrants.—The Health Officer of the port of New York has issued the following circular to owners and managers of passenger steamship lines at the port of New York:

The following rules and regulations have been adopted by the National Board of Health and approved by the President of the United States, November 14, 1881:

"1. That all persons coming from or through any foreign port or place in which small-pox exists, who after the 14th day of November, 1881, shall arrive at any port of entry within the United States, shall be subjected to examination as regards to their protection from that disease by the proper health authorities of the State within which such port lies; or in case such authorities shall fail or refuse to enforce this rule, then by some officer or proper person to be designated by the President of the United States.

"2. That in case any person so arriving shall refuse to submit to such examination, or upon undergoing the same, shall be found not sufficiently protected from small-pox, such person, and in case he or she be not *sui juris*, then also the person having him or her under charge, shall be detained in quarantine until he or she shall have been properly vaccinated, or shall have passed the period of incubation from date of last exposure."

Attention is also respectfully called to the following rule and regulation of the National Board of Health:

All merchant ships and vessels sailing from a foreign port where contagious or infectious disease exists, for any port of the United States, must obtain from the consul, vice-consul, or other consular officer of the United States at the port of departure, or from the medical officer, where such officer has been detailed by the President of the United States for that purpose, a bill of health in duplicate, which shall set forth the sanitary history of said vessel, and that it has in all respects complied with these rules and regulations.

Believing that protection of the lives and health of the people demand the adoption of the foregoing rules and regulations, the following requirements will be made of the officers of steamships entering this port:

1. Bills of health will be required by the quarantine officials at this port in conformity with the above regulations.

2. All immigrants on arrival at quarantine will be subjected to examination as regards their protection from small-pox.

3. The examination of all immigrants by the medical officers of steamships within twenty-four hours after leaving port, and the vaccination of those who give evidence of insufficient protection through previous vaccination, will, if considered by the medical officer at quarantine to have been faithfully and intelligently performed, exempt immigrant passengers from such examination at quarantine as may be necessary to determine whether or not such passengers are protected from the effect of the contagion of small-pox, except where small-pox exists, or has existed, on board the vessel on the passage to this port, in which case the passengers will be examined and vaccinated at quarantine, if not sufficiently protected by previous vaccination.

4. A certificate or card in the hand of each passenger, or the parent or guardian of the passenger, on which shall be written or printed "Vaccinated," and signed by the medical officer of the steamship, will be understood to indicate that such passenger is sufficiently protected by previous vaccination or through the vaccination made on shipboard. All passengers not having such certificate will be considered and treated as exposed or unprotected.

5. The medical officers of passenger steamships will be required to verify under oath the number of persons considered protected by vaccination and small-pox.

6. All persons not protected will be vaccinated or subjected to a quarantine of observation.

The examination of such passengers as are vaccinated soon after leaving the port of departure, and shortly before entering this port to determine results, is earnestly enjoined upon medical officers.

Satisfactory evidence of adequate protection of immigrant passengers from previous vaccination, or through early vaccination by the medical officer of the ship, will not only contribute to the protection of the public health and security, but will promote the interests of passenger lines by saving time and expense at quarantine.

Inspection of emigrants will be made at certain places along the interior line of travel. Uniformity in the form of certificate (or card) given to emigrants is therefore necessary.

The Chair of Gynecology at the College of Physicians and Surgeons, New York.—We understand that Dr. T. Gaillard Thomas has consented to resume his connection with the college, with Dr. Chas. S. Ward as *chef de clinique*.

The Bacilli Tuberculosis.—Ehrlich's method of staining the bacilli of tubercle, as detailed in The Medical News for July 8, has been adopted by Koch, as better than his own process, and is now generally employed in Berlin as a means of diagnosticating tuberculous affections of the lungs.

The Suppression of Juvenile Smoking.—Dr. B. W. Richardson, nothing daunted by the work of resisting the drunkenness of the age, has just been presiding, at London, over the foundation of a society for the suppression of juvenile smoking.

Bartholow's Practice of Medicine, we learn from Canton, is being translated into the Chinese language.

Demonstration of the Bacillus Tuberculosis before the Emperor of Germany.—By request Dr. Robert Koch demonstrated the bacillus tuberculosis to the Emperor of Germany, and explained his views of the pathology of tubercle.

Brighton *vs.* The Lancet.—Suit has been brought against the London *Lancet* by the Corporation of the town of Brighton, for slander on the town and a libel on its authorities for pointing out the defects in its sani-

tary arrangements. *The Lancet* boldly accepts the suit and manfully claims that "if the truth cannot be legally spoken or written as to the sanitary condition of a town, it is time that this should be known, and the public should once for all understand that the supposed guardians of their interests in the matter of health are gagged and silenced by the law."

THE BRITISH MEDICAL ASSOCIATION will hold a Jubilee Meeting at Worcester, August 8, 9, 10, and 11, 1882.

CHOLERA.—A Reuter's telegram states that cholera has broken out in Japan, and in the islands belonging to the Sooloo Archipelago.

THE USE OF AMMONIA IN BAKING POWDERS.—Among the recent discoveries in domestic science and chemistry none are more important than the uses to which common ammonia can be properly put as a leavening agent, and which indicate that this familiar salt is hereafter to perform an active part in the preparation of our daily food.

The carbonate of ammonium is an exceedingly volatile substance. Place a small portion of it upon a knife and hold over a flame, and it will almost immediately be entirely developed into gas and pass off into the air. The gas thus formed is a simple composition of nitrogen and hydrogen. No residue is left from the ammonia. This gives it its superiority as a leavening power over soda and cream of tartar when used alone, and has induced its use as a supplement to these articles. A small quantity of ammonia in the dough is effective in producing bread that will be lighter, sweeter, and more wholesome than that risen by any other leavening agent. When it is acted on by the heat of baking the leavening gas that raises the dough is liberated. In this act it uses itself up, as it were; the ammonia is entirely diffused, leaving no trace or residuum whatever. The light, fluffy, flaky appearance, so desirable in biscuits, etc., and so sought after by professional cooks, is said to be imparted to them by the use of this agent.—*Scientific American*, May 27, 1882.

SEA-WATER IN SCROFULA.—DR. LENA recommends the use of bread made with sea-water in the treatment of scrofula.

DEATH FROM BURNING.—The burning of the Ring Theatre at Vienna gave rise to many important medico-legal investigations respecting the sex and identity of charred corpses, of which Ed. Hofmann and Schultze give a description (*Wiener Med. Blätter*, 1881, No. 50, p. 1538). In determining the sex in cases where the external genitals were completely destroyed, the chief point relied upon was the absence or presence of the uterus and ovaries. In ascertaining the approximate age, external appearances were quite unreliable. The union of the epiphysis with the diaphysis of the humerus, which first takes place at twenty-four years of age; the ossification of the ribs, and more especially the ossification of the larynx, which generally begins between the thirtieth and thirty-fifth year, and is completed in the fortieth year, were found to be the best and most easily ascertained data. In women, the state of the ovaries was important; these being smooth in girls and young women, cicatrized in older women. The hair of the head and beard was generally black, and had to be washed before its natural color could be ascertained. The cornea was generally milky and turbid, as if boiled. Often the obsolescence of the cornea gave to the iris a deceptive blue appearance. The teeth, though calcined and crumbled, were, nevertheless, serviceable in determining the age. The nails, too, in some cases, served for identification. In a large number of cases the blood was of a florid color; and this may have been due to the inhalation of carbonic oxide gas.—*London Med. Record*, May 15, 1882.

DIED, at Norwalk, Conn., on July 8, after a lingering illness, consequent upon Bright's disease, FRANCIS V. BRUSH, M.D.

Dr. Brush was born in Brooklyn, August 26, 1844, and was for many years a resident of that city, his father, the late Major Conklin Brush, having been identified with her interests during a very important period of her history. Dr. B. was a graduate of the College of Physicians and Surgeons, N. Y. He was a leading practitioner and active citizen in Norwalk.

——On June 28, AMÉDÉE LATOUR, the former editor of *L'Union Médicale*.

NOTES AND QUERIES.

IODIDE OF AMMONIUM IN THE TREATMENT OF DIPHTHERIA.

DR. V. SCHRAKIN-ROSS, of Yankton, Dakota Territory, writes to us, recommending in the treatment of diphtheria the use of iodide of ammonium, in solution, internally, with the local application of Lugol's solution to the throat, every three or four hours. By this method he has treated, during the last five months, thirty-two cases, with but a single death. The iodide of ammonium acts, he thinks, by averting the systemic depression which is always present in diphtheria, and by its power of markedly reducing the febrile temperature.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 11 TO JULY 17, 1882.

GREENLEAF, C. R., *Major and Surgeon.*—Now awaiting orders, to report in person to the Commanding Officer, Columbus Barracks, Ohio, for duty as Post Surgeon at that post.—*S. O. 160, A. G. O., July 12, 1882.*

BROOKE, JOHN, *Captain and Assistant Surgeon.*—Having reported at these headquarters, is assigned to duty as Post Surgeon at Angel Island, California.—*S. O. 120, Military Division of the Pacific and Department of California, July 7, 1882.*

GIRARD, J. B., *Captain and Assistant Surgeon.*—Relieved from duty at Fort Grant, Arizona Territory, and assigned to duty at Fort Lowell, Arizona Territory.—*S. O. 106, Department of Arizona, July 3, 1882.*

BYRNE, C. B., *Captain and Assistant Surgeon* (Fort Barrancas, Fla.).—Granted leave of absence for one month, with permission to leave the department and to apply for an extension of two months.—*S. O. 68, Department of the South, July 12, 1882.*

HAVARD, VALERY, *Captain and Assistant Surgeon.*—Relieved from temporary duty at these headquarters, and at post of San Antonio, and assigned to duty as Post Surgeon at Fort Duncan, Texas.—*S. O. 68, Department of Texas, July 5, 1882.*

FINLEY, J. A., *Captain and Assistant Surgeon.*—Assigned to duty as Post Surgeon at Fort Concho, Texas (Fort McKavett abandoned).—*S. O. 68, c. s. Department of Texas.*

POWELL, J. A., *First Lieutenant and Assistant Surgeon.*—To report to the Commanding Officer Fort Davis, Texas, for duty (Fort Stockton, Texas, abandoned).—*S. O. 68, c. s. Department of Texas.*

GORGAS, W. C., *First Lieutenant and Assistant Surgeon.*—When relieved by Assistant Surgeon Havard, to report to the Commanding Officer Fort Brown, Texas, for duty.—*S. O. 68, c. s. Department of Texas.*

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLI. SATURDAY, JULY 29, 1882. No. 5.

ORIGINAL LECTURES.

A CLINICAL LECTURE ON EMPYEMA AND ITS ANTISEPTIC TREATMENT.[1]

Delivered at the Montreal General Hospital, June 24th,

BY WILLIAM OSLER, M.D., M.R.C.P. LOND.,
PROFESSOR OF THE INSTITUTES OF MEDICINE, MCGILL UNIVERSITY.

GENTLEMEN: I wish to speak to you to-day on the subject of empyema and its treatment by the antiseptic method. You saw yesterday a case which was operated upon in this way, and I will first read to you the clinical report.

Mary S., aged twenty-seven, was admitted June 6th. Is unmarried, a servant. Nothing special in the family history. She has been a healthy girl. Four weeks ago she had chills and pain in the left side; no cough or expectoration. She was attended by Dr. McCallum, who diagnosed pleurisy, and on Thursday, June 1st, drew off with the aspirator three pints of turbid, greenish-yellow fluid; the patient was relieved by this tapping, but on the 6th the temperature had risen; she was not so well, and she was recommended to come to the hospital. On admission she was noted to be pale, fairly well nourished, cheeks flushed, temperature 103°. On examination of the chest, the left side did not expand as much as the right. The intercostal spaces were not so distinct, the tactile fremitus was absent. Apex beat to the right of the sternum. On percussion there was dulness over the whole lung, except in the infra-clavicular region. The two sides were of equal size. She complained of a good deal of pain, and the skin was hyperæsthetic. On auscultation, the breathing was exceedingly weak and distant. The evening temperature on the 7th, 8th, and 9th, reached nearly 102°. On the 12th, she was again aspirated and fifty-one ounces of pus removed; she got considerable relief from this. The respirations were reduced from about forty to twenty-four in the minute, and the temperature remained at about 99° in the morning, reaching 100° in the evening. On the 20th, the temperature went up to 103.5°; on the 21st and 22d, it remained at about 102°. She did not seem so well, and we then determined to make a free opening in the chest and treat the case antiseptically. The operation was performed by Dr. Fenwick in the following way. He made an incision in the eighth intercostal space on the left side, on the outer margin of the infra-scapular region, just at the junction of this with the infra-axillary region. He then opened the pleural cavity and put in a silver canula, which was devised several years ago by Dr. Roddick, after repeated trials, for special use in cases of empyema. The canula, which is slightly curved, has the following dimensions: orifice is oval, three-quarters by one-half an inch; a wide flange surrounds it, two and a half by one and a half inches, and provided with eyelets for tapes. The tube is bevelled at its inner end, and measures about two inches in length, and has twelve small perforations. A shorter tube was found to slip out. In cases in which it has been used, this one has given great satisfaction, as it allows of very free drainage from the pleural cavity, and being solid prevents the pressure of granulations and secures a space of constant size through which the pus can exude. As you saw, the most careful antiseptic precautions were taken. About thirty-two ounces of pure pus were removed. It was dressed antiseptically. The cavity was not injected and the layers of antiseptic gauze, soaked in 1 to 40 carbolic acid, were placed directly over the tube, tow was placed outside this, and the side then bandaged. The rule is to repeat the dressing as soon as the discharges get to the edge. Dr. Duncan, last night, dressed the case again, as the discharges had saturated the tow and gauze; and it was dressed again this morning. You have just seen that this patient is in a comfortable condition to-day. The temperature is 98°, respiration twenty-four, pulse one hundred and eight. She expresses herself as feeling very easy, and we hope she will do as satisfactorily as the cases I am about to describe to you. This is the fourth case in which I have had the patients treated on the strict antiseptic plan, and as they have done unusually well, I am at present very strongly impressed with the good results we have obtained.

CASE I.—The first case I had treated in this way was a delicate looking lad, aged 16, who was admitted June 13, 1880, with empyema of left side; all the physical signs well marked. He had been ill four or five weeks, and the chest had been aspirated once by Dr. Ross; the fever was irregular; pulse weak; respirations much accelerated; profuse sweating. The tube was inserted on the day of admission and about four pints of pus removed. This lad was in a very critical condition, very weak and debilitated, and we had grave fears as to the result; however, he did remarkably well. The chest was dressed whenever the discharges reached the edge of the dressing. For some weeks he remained feeble, the temperature going up occasionally as high as 103°. After about a month he began to improve, the discharge got less, and the side of the chest began to fall in. After a treatment of about two months he was materially better, discharge very slight, and on the 27th of September he was discharged perfectly cured and in very good condition, having increased considerably in weight. We had removed the tube some weeks before he left the hospital. I saw him a couple of months afterwards and exhibited him to the Medico-Chirurgical Society; he had then gained forty or fifty pounds in flesh, and had returned to work. There was a slight contraction of the left side of the chest, but he had made a satisfactory recovery.

CASE II. was under our care during last summer session. This was a French lad, aged 20, who was also sent in by Dr. Ross. He had empyema of the left side. It had lasted for several weeks, and he had been tapped once and a quantity of pus drawn off. When he came to the hospital, he had irregular fever and sweating and considerable constitutional disturbance. I thought also at the time that he had some affection of the apex of the right lung, as there were râles in that region. There was universal dulness over the left side, with the exception of the infra-clavicular region, and the usual physical signs of effusion. Dr. Fenwick operated in the way I have described to you; the case was dressed antiseptically, and the lad made a remarkably good recovery. He entered the hospital on the 28th of May, and on July 23d he left completely well, having gained in flesh and with the wound quite healed. I exhibited this lad also, with the other one, before the Medico-Chirurgical Society, and in both of them the result was everything that could be wished.

[1] Reported by Mr. S. A. Abbott, of the Hansard Staff.

CASE III. was also under observation last summer—a man named Clarke, aged about forty-three. He was in the hospital for a couple of weeks with pleural effusion on the right side. There was irregular fever, and we suspected that the fluid was probably purulent. On using the hypodermic needle, we found that there was pus, and he was treated in the way I have already described. The pus was drawn off, and antiseptic dressings were applied every day or every second day, according to the amount of the discharge. This man was admitted April 19 and discharged July 4, perfectly well, having been seventy-five days in hospital. The tube had been removed several weeks before he left the hospital, and at the time of his discharge the breath sounds were audible at the angle of the scapula. He had improved in general health, and he went back to his work. I saw him several months afterwards, and he had kept well.

These three cases of empyema stand out very distinctly in my memory, inasmuch as they are among the few instances in which I have seen good recoveries in this disease. It is always regarded as an exceedingly serious thing for a person to have pus in the pleural cavity. The liability to constitutional disturbance, the difficulty of getting the suppurating pleural membranes to granulate and heal, are well known, and render this disease extremely difficult to treat satisfactorily. Under the antiseptic plan I believe many of these difficulties are obviated. In these cases the temperature after operation, particularly in the man Clarke and in the second case, remained normal, and it would seem that if there is no blocking of the tube, and you get free discharge, this disease, like an ordinary abscess when treated antiseptically, will get perfectly well in the majority of instances, and with very little constitutional disturbance. Of course, when you are in practice, it will be difficult for you to get the complete antiseptic apparatus; perhaps as young practitioners it is not desirable that you should, unless you devote yourselves specially to surgery. This method must, from these circumstances, be confined chiefly to hospital practice, but where you have a case of empyema you can always follow out these general rules: *Get rid of the pus as soon as you can, as completely as you can, and give as thorough drainage as you can to the abscess cavity in the chest*, and if you follow out these you will probably have excellent success in the majority of cases of empyema. A thorough withdrawal of the pus is, I believe, essential, as well as thorough drainage. It does not appear to make much difference whether you wash out the chest or not with carbolic acid or iodine, provided you have an effectual outlet. If the orifice is large, and in a situation where the drainage will be complete, then I do not think washings are so necessary. But if you have a narrow orifice, you may have to make a counter-opening, and put in a drainage-tube, and wash out thoroughly. This is the method usually followed: A drainage-tube is put in and the chest is washed out with dilute carbolic acid, or with dilute iodine. I have seen a good many cases treated that way, and I must say that, excepting in the cases of children, satisfactory recovery has been exceedingly rare. It is notorious that the results in many instances of empyema are most unfavorable; several recent records of such cases have surprised me by their high rate of mortality. One of the best series of cases I know of is that reported by Dr. J. G. Blake, of the Boston City Hospital,[1] who, by means of thorough drainage and a free opening in the dependent portion of the affected side, was able to cure thirteen cases out of nineteen, and two others were very greatly improved. These results were obtained without special antiseptic precautions, and I refer to them with pleasure, for I do not wish you to think that it is only under this plan that cases do well.

As you are aware, in this woman we aspirated the chest first; and the rule is in a case of empyema to draw off the fluid with the aspirator at least once. A few cases do well with a single aspiration, and in children this is almost the rule. But in adults, unfortunately, the case usually goes from bad to worse, unless a very free opening is made. In these four cases the intercostal spaces have been of sufficient size to admit the tube. In some instances the space is not large enough, and you may have to resect a portion of a rib, in order to get plenty of room.

And now a few general remarks on the disease. In some cases the fluid appears to be purulent almost from the outset. In the case of this woman, the fluid, when first drawn off, was turbid, of a cream-yellow color, and probably became purulent shortly after its formation. Of course, the ordinary sero-fibrinous fluid of a pleurisy contains numerous leucocytes, and the conversion of such a simple effusion into a purulent one is a matter of multiplication of these. Purulent fluid is simply the serum densely infiltrated with the leucocytes. In debilitated persons the fluid is much more apt to become purulent than in the strong and healthy. There is but one invariable and sure means of ascertaining whether the fluid is pus or not, and one that is easily applied. Take your hypodermic needle, and thrust it into the chest, and draw off some of it. A simple enough method, but one which is not often enough resorted to. There are numerous practitioners throughout the country who never think of using the hypodermic needle except for purposes of medication, whereas it is of almost as much importance in diagnosis. In cases of pleural effusion, or of doubtful dulness, in the posterior part of the chest, you need never hesitate to thrust the hypodermic needle into the regions affected. It is so simple an operation that it does no harm, while the indications you get from it are of the greatest value.

Professor Bacelli, of Rome, described a few years ago a new sign by which to distinguish between simple and purulent effusions. I tried it in the case of the woman, but it was not very satisfactory. It is as follows: The affected side of the chest is auscultated, and the patient turns the head to the opposite side and whispers. If the fluid is serous, the voice sounds are conveyed to the ear; if it is a purulent fluid, the whispered sounds are not so conveyed. In some instances this method proves useful, and in some it does not. In one case, particularly, it proved to be correct.

Another point worth noting is that, in cases of simple effusion, the patients usually lie on the affected side; whereas, in cases of purulent effusion—why it is I do not know, but it has been specially noted by Dr. Churton, of Leeds, and I have observed it myself—they usually lie on the opposite side.

What becomes of the effusion if it is not removed? It may be absorbed. Adhesions form between the pleura in certain parts, and you may have multilocular empyema, which may be cured naturally, though it will be a struggle and tax the vitality of the patient. It may perforate into the lung to be discharged through the bronchial tubes, which I think is a very favorable way. The cases we have had in this hospital of perforation into the lung and discharge have done exceedingly well. Dr. Ross has had two such cases which recovered perfectly. Dr. Wilkins has a case at present, I believe, in the wards, in which the pus perforated the lung and was discharged by coughing. It may also perforate the diaphragm, but that is rare. It may perforate externally (empyema necessitatis) and discharge for months or leave a permanent pleural fistula. A point to be borne in mind, in cases of left-sided em-

[1] Hospital Reports, 2d Series, 1877.

pyema, when they begin to pass towards the surface, is that they sometimes pulsate, and the pulsation is exceedingly likely to be confounded with that of an aneurism. In the chronic cases the patients have irregular fever, and the prolonged discharge is likely to induce either amyloid disease of the organs, or else the sound lung on the other side becomes affected and they get tuberculous.

The effects of a large pleural effusion, whether purulent or not, upon the lung are very well seen in this specimen, which was taken from a case of empyema, in which the patient died of acute pneumonia of the opposite lung. You see here that the lung is flattened to a cake-like mass, pressed back against the side of the vertebral column.

Among the advantages of the antiseptic method in empyema appear to be:

(1.) Ample provision is made for free and continuous drainage.

(2.) The avoidance of putrefaction; in none of the cases were the discharges in the slightest degree offensive.

(3.) The ease with which the operation is performed and the small amount of trouble entailed in the subsequent dressings.

(4.) The healing is more rapid, and serious consequences, as amyloid disease and phthisis, are less likely to follow.

Note.—July 11. The patient operated upon on the 4th. Has done remarkably well. Temperature normal, except on one evening; dressings changed now every third day; discharge very slight.

ORIGINAL ARTICLES.

PRESIDENT GARFIELD'S CASE AGAIN.

BY FRANK BAKER, M.D.,
ASSISTANT DEMONSTRATOR OF ANATOMY AND LECTURER ON VISCERAL ANATOMY IN THE NATIONAL MEDICAL COLLEGE, WASHINGTON, D. C.

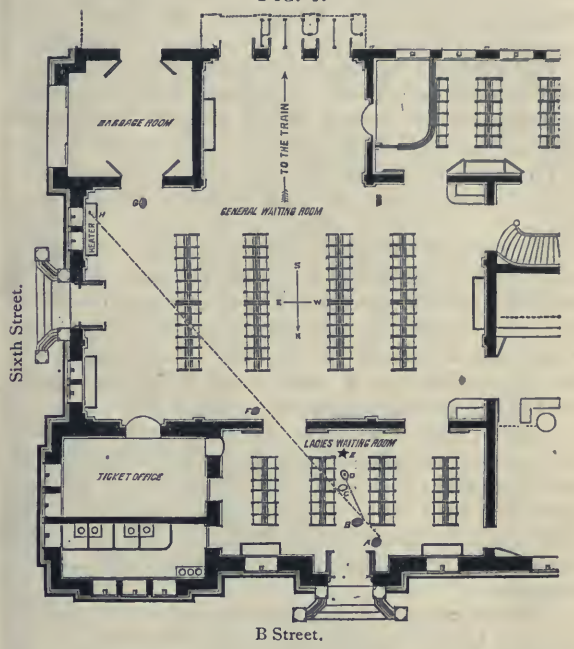
I HAVE read with much interest the article by Dr. White in THE MEDICAL NEWS of June 24th, reviewing President Garfield's case. He rightly states that there is still much misconception regarding several important points, but has, I think, shown that he is himself not entirely free from the error he deplores.

To take up his points in order:

First.—"Did the relative positions of the patient and assassin, at the time of the shooting, afford any indication of the course of the ball as revealed at the autopsy?" Nothing could more strikingly illustrate the difficulty which physicians at a distance have in understanding this fatal case than the statements made by Dr. White in perfectly good faith, and as if the facts were beyond question. He says: "At the time the shooting took place, the President and Guiteau stood about six feet apart, the latter a little to the right of his victim, who was just in the act of turning to the left. . . . All accounts agree that the second shot inflicted merely a slight flesh wound of the arm."

Now, the evidence is conclusive that at no time before he fell did the President turn to the *left*. The only motion of turning was to the *right*. Secretary Blaine, Signor Camacho, Mr. Parke, and Mr. Adams, in their testimony given on the trial of Guiteau,[1] all agree upon this point, and the evidence of Mr. Du Barry is especially conclusive. He was standing at the point marked *F* in the accompanying diagram, which is a ground-plan of the Baltimore and Potomac Railway depot, reduced from the copy used in the trial. Startled by the first shot, he turned towards the sound and saw the President standing, "with his head turned away."[2] If the President had turned to the left, he would have presented his full face to Mr. Du Barry.

FIG. 1.



A. Guiteau's position at first shot. *B.* Guiteau's position at second shot. *C.* President's position at first shot. *D.* President's position at second shot. *E.* Spot where President fell. *F.* Witness Du Barry's position. *G.* Witness Crawford's position. *H.* Spot where first ball was found.

It is also certain that the *second* shot was the fatal one. The positions of the parties, as deduced from a careful analysis of the evidence, are those shown in the diagram. There is no substantial conflict of evidence as to these positions. The position at the second shot is specially well fixed by the fact that the witness Crawford, at the point marked *G* in the plan, could not see the President, though he did see Guiteau in the act of firing.[3]

The fact has been strangely overlooked that the missing bullet has been actually found in a ball of putty contained in the kit of a glazier, a Roumanian named Plokschis. The matter was carefully investigated at the time, and the bullet is in the possession of Colonel Corkhill, the District Attorney. It was not brought out upon the trial for the reason that it was not required by anything presented by the defence. The glazier's kit was standing at the point marked *H* in the plan on the end of a heater under a window of the main passenger hall near the baggage-

[1] Official Report, pp. 121–158. [2] Ibid., p. 182.
[3] Ibid., p. 174.

room, and nearly seventy feet away from the place where Guiteau fired. A glance at the diagram, and an analysis of the evidence as to the corresponding positions of assassin and victim at the first and at the second shots, will convince the most sceptical that the bullet found in the putty must have been the *first* one fired.

If the second bullet was the one found, it could not have cut the President's coat-sleeve, and Guiteau's aim must have been very inaccurate. The testimony is unanimous as to the directness of the second shot. The President himself, as I am informed by Col. A. F. Rockwell, said that he was certain that it was the second shot which took effect.

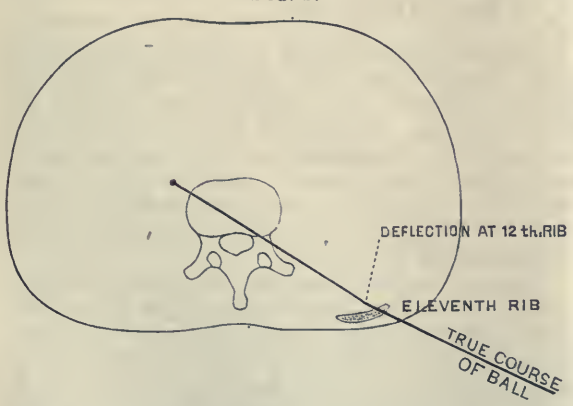
The evidence also shows that while the pistol was held horizontally at the first shot, the muzzle was considerably depressed at the second. This was specially noticed by the witness Crawford, standing at the point *G*. A marked depression would have carried the bullet to the floor before it reached the kit.

The general tradition of the shooting, as it exists among the employés of the railway company, agrees entirely with the positions I have deduced from the evidence. The star in the diagram is the spot where the President finally fell. It is marked on the depot floor by a brass star. His feet were toward the B-Street entrance.

It may, therefore, be considered as established that, at the time of receiving the fatal shot, the President had turned partly to the right, and that the shot was fired from a position diagonally to his right rear, the pistol being held in such a manner as to impel the ball downward, forward, and toward the spine.

It seems strange that any misapprehension of facts so well known should occur, as there was ample opportunity to ascertain the true position of the parties. The witnesses were easily accessible, most

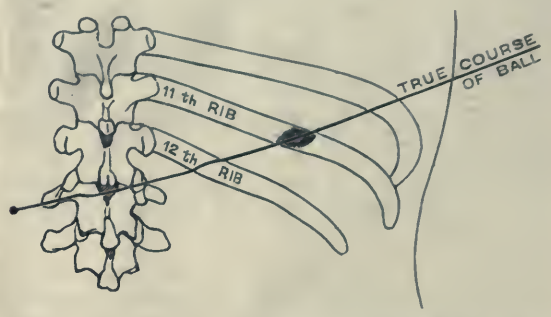
FIG. 2.



of them residents of Washington and employés of the railway company. It is probable that the misapprehension arises from the published report of Dr. Bliss,[1] in which he assumes that a marked deflection must have taken place to carry the ball toward the spine, and an illustration appended[2] apparently shows the point of entrance of the ball as nearer the spine than the point where it struck the eleventh rib. This theory appears to be the one adopted by Dr. White. The contrast between such a course and the one shown by the evidence, becomes striking when placed upon a diagram. Fig. 2 shows this as well as a course not horizontal can be shown in plan.

Fig. 3 is the same, viewed in a vertical plane. The outlines of this latter figure are taken from Fig. 5 of the autopsy report. The location of the points where the ribs were fractured and the vertebra penetrated, may, therefore, be assumed as correct.

FIG. 3.



I am aware that a number of remarkable deflections of the ball have been described as occurring within the body. With the exception of those which took place within the bodies of the vertebræ, these deflections are not confirmed by the official report of the autopsy. In judging of the deflections from the ribs, it should be borne in mind that those who prepare skeletons for anatomical models are in the habit of pushing the ribs upwards and forwards into a position which they occupy in life only during forced inspiration, if at all.

It is perhaps impossible to ascertain the precise angles of deflection from the ribs, as the problem is greatly complicated by their elasticity, and by the impossibility of ascertaining their precise relative position at the fatal moment. It seems probable, however, that the ball was little, if at all, deflected at the eleventh rib, and that what deflection took place was at the twelfth rib after its initial velocity had been somewhat reduced by its first impact.

There is nothing in this case to invalidate the general rule laid down by Hamilton,[1] that conical balls usually go straight to their destination, and Dr. White is not correct when he states that an erroneous conclusion would have been drawn had the physicians relied upon a knowledge of the positions of Guiteau and the President as a means of diagnosis.

Second.—As to probing for the ball. Dr. White correctly states that it would have been unjustifiable to probe the *entire* track of the ball. But that is not exactly the question. Could not the ball have been traced far enough to afford means for a correct diagnosis? It seems beyond doubt that a digital examination, with suitable enlargement of the wound,

[1] Medical Record, Oct. 8, 1881. [2] Ibid., p. 396.

[1] Military Surgery, p. 174.

made immediately after the injury and before the stage of tumefaction had set in, would have sufficiently indicated the course of the ball to show that it had entered the vertebra.

In the course of Dr. White's extensive reading with reference to the case, he has apparently not met with the able article of Dr. Ralph Walsh, of this city,[1] which contains a large amount of original evidence, showing that the *first* examination of the wound was hasty and partial, not even the fracture of the rib being discovered. He quotes from eminent authority to show that the wound should have been enlarged and the spicula from the rib removed to avoid the formation of a pus cavity.

To this Dr. White seems inclined to agree, as he says:

"The rigors which occurred about the 22d of July were due, in the first instance, to the formation of a small abscess under the erector spinæ muscles, possibly caused by the irritation of a small fragment of the broken rib, buried in the contiguous muscle."

It would undoubtedly have been bad surgery to have probed the wound when Dr. Agnew came into the case. But it was far otherwise at first.

the diagram shown below, to which is attached the following certificate:

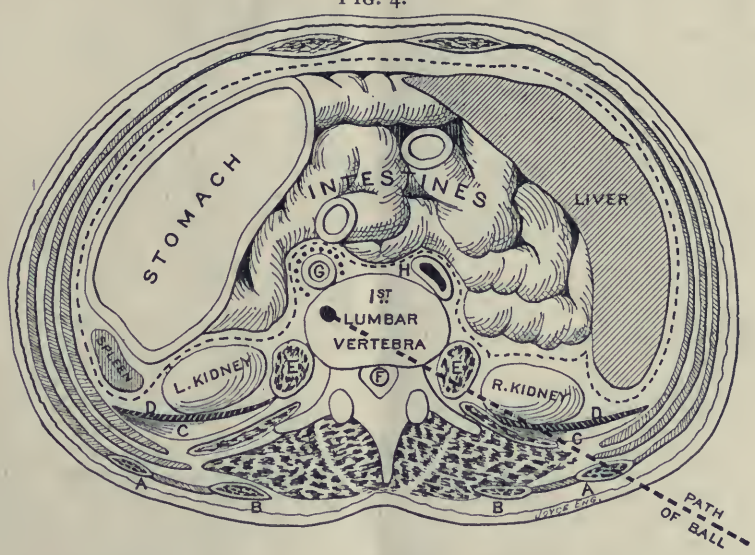
"We, the undersigned, hereby certify that, on or about the evening of July 7, 1881, this diagram was shown us by Dr. Frank Baker, as representing his idea of the course taken by the ball which wounded President Garfield, July 2, 1881. Dr. Baker further stated that it was his opinion that the ball might have passed through the vertebra and lodged beyond.

"D. WEBSTER PRENTISS, M.D.
"N. S. LINCOLN, M.D.
"SMITH TOWNSHEND. M.D."

The diagnosis was based upon the following points:

(*a.*) *The symmetrical character of the pains in the feet.* Dr. White has been misled. He speaks of the pains in the feet as "at first altogether on the right side, and always much more marked on that side than on the left;" and seems to think they were not of marked severity. Now, these pains were mentioned by the patient immediately after the injury, were very severe, and lasted for a considerable time. Dr. Lincoln, whose eminence and authority are undoubted, and who was with the

FIG. 4.



Cross-section of the human body at the first lumbar vertebra and below the pancreas.[2]

A. Eleventh rib. B. Twelfth rib. C. Pleural cavity. D. Diaphragm. E. Psoas muscle. F. Spinal cord. G. Aorta surrounded by solar plexus. H. Vena cava. The dotted line represents the peritoneum.

Third.—Did the subjective symptoms furnish reliable material for diagnosis? In Walsh's *Retrospect* for October, 1881, is an account of a diagnosis made by me two days after the injury, accompanied by

President most of the time during the day of the shooting, gave me, on July 7, 1881, the information contained in the following paragraph, taken from the article above cited:

"He informed me that his attention had been particularly directed to the pains in the President's feet, which were severe and prolonged, resisting the anodyne effects of hypodermic injections. The patient described the pain as located in the soles of the feet, the region of distribution of the posterior tibial nerve. This at once directed Dr. Lincoln's attention to a possible injury of the spine, and he asked if any difference could be distinguished in the sensations of the two feet. The President, after careful consideration, replied that he could perceive no difference. Dr. Lincoln then

[1] Walsh's Retrospect, October, 1881. See also the same for April, 1882, pp. 307, 308.

[2] This diagram was hastily prepared, without reference to any existing representation of the same region, but it is believed to be correct with regard to the main points involved. It was my intention to carefully revise it so as to make it absolutely correct anatomically, and then to publish it in some medical journal. The large area given to the stomach was shown for the reason that the injury was received directly after a hearty meal, and therefore during a state of distention of that viscus. For the same reason a comparatively small area of liver is shown, it being pushed upward and outward by the distended stomach.

supposed that the spine was certainly injured, or that the ball had possibly passed downward into the pelvic cavity and rested on the hypogastric plexus."

(*b.*) *The hyperæsthesia of the right side of the scrotum at the area of distribution of the ilio-inguinal nerve.* This extended also to the lower abdominal region, the area of distribution of the ilio-hypogastric nerve.

(*c.*) *The vomiting*, so immediate and marked that it indicated an injury to the solar plexus.

(*d.*) *Internal hemorrhage.* The pulse had the peculiar thready character known as hemorrhagic. The vessels lie toward the spine. Hemorrhage from the liver would have been more apparent *externally.*

(*e.*) *The inadequacy of any soft tissue to stop a ball of 44 calibre*, fired with twenty-two grains of powder at six feet range. The vertebræ only could do this.

(*f.*) *Negative evidence.* No paralysis; cord not permanently injured. Daily evacuations and no marked icterus; intestines, kidney, and liver intact.

It is easy to attack these symptoms *separately*, as Dr. White has done, and show that each might be differently interpreted. But he surely has not considered their *cumulative* force. They are like guide-posts pointing to the path of the ball:

"The path of the ball was from right to left, forward and downward. It splinters the eleventh rib, traverses the pleural cavity and the diaphragm, passes *over* the left border of the right kidney, grazes the posterior surface of the liver, enters the psoas, injuring the ilio-inguinal nerve, traverses the body of the vertebra in front of the spinal cord, finally lodging behind the peritoneum near the stomach. For each particular lesion distinct symptoms were shown, which, had not the surgeons been led astray by an error, must have guided them to the course of the ball. The splintering of the rib was recognized, the penetration of the pleura and diaphragm gave rise by diffuse inflammation to the trouble in the lower lobe of the right lung, the grazing of the liver caused the slight jaundice which for a day or two misled the surgeons, the injury to the ilio-inguinal nerve caused the sensations at its distribution, the crushing of the vertebra caused concussion of the cord and the pains in the feet and back, the injury to the solar plexus caused the vomiting, the cutting of the artery, the internal hemorrhage."[1]

Dr. White comments upon the fact that no diagnosis was published until after the autopsy. I think that he will on further reflection understand the feeling which prevented young physicians not having access to the patient from publishing remarks on a case in which the best surgical talent of the country was employed. It is proper for me to state that I was by no means alone in my conclusions as to the course of the ball. Several surgeons independently expressed the opinion that the spine was injured, and it was generally a cause of remark that nothing was heard from the physicians in charge leading to that conclusion. It was supposed that there must be imperative reasons for a contrary opinion evident to those in immediate relation to the patient. Had I not fortunately sketched the diagram showing my views, I would have been as unable to present satisfactory evidence of the fact as many others are. If we add to the subjective symptoms the evidence afforded by the position of the parties, we may well wonder at the "absence of diagnosis," as Dr. White is pleased to call it.

Fourth.—If the diagnosis had been correct, would the treatment have been modified? All know the great skill and care that was lavished on our lamented President. But is it safe to say that no different treatment would have been adopted either in decubitus or surgical procedure had a positive diagnosis been made? I think not. When we reflect how the whole nation hung in suspense over the case, the million hands and heads that were ready to follow the slightest suggestion, I do not think we can predict with certainty the developments that might have ensued.

Fifth.—The cause of death. All acknowledge the rupture of the splenic artery as the immediate cause, the only point in dispute being as to how the rupture was occasioned. Dr. White does not even mention the anatomical difficulty. It is this: the artery arises from the cœliac axis, which is opposite the body of the twelfth dorsal vertebra.[1] It proceeds in a tortuous course in a nearly horizontal direction lying in a groove along the posterior *upper* border of the pancreas, the splenic vein being below and behind it. The ball emerged from the spine at the lower part of the body of the first lumbar vertebra, and was found encysted "below the *lower* border of the pancreas. The pancreas is an inch and a half thick. We are compelled to suppose either that the tortuosities of the artery were such as to cover the entire back of the pancreas, or that the ball after leaving the spine passed upward for an inch and a half in a nearly vertical direction, and then down again. The splenic vein which apparently would present more nearly in the track of the ball, was not injured.

Dr. White suggests a "slowly developing inflammation and ulceration extending from the track of the ball." But the report of the autopsy has told us nothing of this. Arteries are almost the last structures to give way to ulceration.[2] Neither is it likely that the vessel was wounded by a spiculum of bone, for the spine is so thoroughly protected in front by ligamentous and tendinous attachments that the detachment of spicula is "difficult if not impossible."[3]

Admitting that it was anatomically possible for the ball to impinge on the artery, it must then have been nearly spent. Would it not have *pushed aside* an artery with strong and elastic coats like the splenic?

Again, how could a traumatic aneurism exist for eighty days in loose subperitoneal tissue, which can readily be peeled up anywhere in the lumbar region by moderate force? The splenic artery is equal to the brachial in size.[4]

Sixth. Was the wound necessarily mortal? Dr. White by no means does justice to the case of the

[1] Walsh's Retrospect, loc. cit.

[1] Power's Anatomy of the Arteries, p. 249.
[2] Agnew's Surgery, vol. i. p. 531.
[3] Hamilton's Military Surgery, p. 337.
[4] *Henle.* Gefässlehre des Menschen, s. 167.

other side. Probably no two wounds were ever *exactly* alike. The amount of affirmative evidence is necessarily small. Gunshot wounds of the bodies of vertebræ not immediately fatal are rare and difficult to diagnose. Opportunities for post-mortem examination of cases of recovery are much rarer. Dr. Walsh[1] cites the following case reported by Dr. Johnson Eliot, one of the most distinguished surgeons of this city, and formerly Demonstrator of Anatomy in the college to which I have the honor of being attached. He says:

"While I was Demonstrator of Anatomy, National Medical College, a cadaver was brought into the dissecting-room for dissection. After it was dissected, the janitor, while cleaning the bones for the purpose of making a skeleton, observed a hard substance in the body of the second or third lumbar vertebra. He drew my attention to it, and, upon examination, I discovered that it was a bullet deeply imbedded in the cancellated tissue of the body. The injury was such a remarkable one, in view of the man's apparent excellent health, that I called it to the attention of Dr. Thomas Miller, then Professor of Anatomy in the College. He expressed great surprise at the injury and interest in the case, and desired me, if possible, to obtain a history of it. After considerable inquiry, I learned that the man had been a marine in the United States service many years; had served his period of enlistment, and been discharged, subsequently engaging in another vocation, and dying in this city of pneumonia. The history of the case and appearance of the body presented no evidence of recent gunshot injury."

Again, in *The Lancet* of May 27, 1881, I find the following abstract of a case from *Gaillard's Medical Journal* (which I have not at hand), and vouched for by Dr. Gaillard. The comments are those of *The Lancet*.

"The patient was an officer in the American army, who was wounded at the battle of Seven Pines, May 31, 1862. He was first struck by a minie-ball, which entered just outside the right anterior inferior iliac spine, and passed out through the buttock without injuring the bones. A little later a ball passed through the calf of his right leg, and he then fell face foremost into the mud. While lying in this position, another minie-ball struck him on the right of the spine, below the false ribs. No symptom of paralysis or visceral lesion supervened. Little or no effort was made to find the bullet, and he left the hospital in a month. The following winter he again served in the army, and bore great fatigue. At the close of the war he returned home in good general condition, but suffering pain in his spine, which did not, however, prevent his undertaking severe physical labor. So he went on until 1875, when, after some very heavy lifting, he was seized with severe pain, and became emaciated and disabled. The sinus in his back had been discharging all this time. This was now explored. A free incision being made down to the body of the first lumbar vertebra, which was felt at the bottom of the wound, the finger could be passed round the part of the body of the vertebra, and the bullet was felt fixed in the bone on the left side. With considerable difficulty the bullet was removed. It was found to have cut a deep groove or tunnel round the right side of the first lumbar vertebra, and to have splintered the last rib. The man's general condition improved considerably at once, but six months later he was again attacked with fever and great pain and swelling on the left side of the spine. Three or four weeks later the swelling was opened, and large quantities of pus "blackened with powder" were discharged. Following this came several small pieces of bone and a piece of cloth two inches long by a quarter of an inch wide, part of the binding of his pantaloons; and a few days after this a piece of bone, with a cup-shaped depression that exactly fitted the extracted bullet, came away. From this time the man steadily improved; the two sinuses closed up, "and he now has no pain in his back, feels well, and is in stout and robust health." This case, interesting in itself, is still more so when considered in relation with the wound of President Garfield. The original injury in the two cases was nearly similar, but it is noteworthy that the patients were very different—one was a young man, the other considerably older; and the course taken by the pus was also different in the two cases. But this case shows conclusively that a gunshot wound of the body of a vertebra is not necessarily a fatal injury, as was hastily and unwarrantably stated in reference to President Garfield's case."

[1] *Loc. cit.*

It may be further said that Dr. White's analysis of Dr. Hammond's citations, still leaves untouched the fact that eminent authorities recognize the possibility of recovery after a gunshot wound of the bodies of vertebræ.

I purposely abstain from advancing any theory or drawing any conclusions. Deploring, no less than Dr. White, the misconceptions which still exist, I have given the reader well-authenticated facts from which he can make his own deductions. If, with such facts as we have shown could have been obtained at the first moment of inquiry, science cannot reach a diagnosis, the energy of the profession should be directed to finding means to do so. If the data for a diagnosis did exist, it can be no excuse for the neglect to make use of them, to allege that the termination of the case would not have been affected.

DISPLACEMENT OF THE SPLEEN AND PANCREAS; SLOUGHING OF BOTH ORGANS; GANGRENE OF INTESTINES.

BY W. L. ESTES, M.D.,
MEDICAL SUPERINTENDENT OF ST LUKE'S HOSPITAL, SOUTH BETHLEHEM, PENNSYSVANIA.

CONGENITAL deviations from the normal positions have been reported of all the solid abdominal viscera. Wandering kidneys are frequently met with; displaced livers now and then; and dislocated spleens are not uncommon. But in all the medical literature that the writer has been able to consult, he has not found a case of spleen and pancreas dislocated into the right iliac fossa. Thinking that a report of such a case might be interesting to the readers of THE NEWS, the history and autopsy of the subjoined case are given.

While the reporter was House-Surgeon in Mt. Sinai Hospital, New York, in 1880, Rosa P., nineteen years of age, Hungarian by birth, was admitted into the gynecological ward as a case of "Abdominal Tumor." She was admitted November 2, and gave the following history: Family all perfectly healthy; she herself had been perfectly well up to three years before coming under observation, when she had a very severe attack of what she said her physician called "*liver fever*," which confined her to bed one whole winter. During her sickness she

noticed a "swelling in the right side," but it seemed to disappear entirely after her convalescence. Eighteen months after this she immigrated to America, and almost immediately was again sick with similar symptoms as at her former attack, but of less degree and much shorter duration. Since then she has had three attacks, all marked by pain in the right iliac region, swelling of the abdomen, and slight rise of temperature. After three days she is always able to get out of bed and return to her work (that of an ordinary domestic) without any inconvenience, save slight soreness and pain in the abdomen, which disappears in a few days. Her present attack began seven days before admission. She arose feeling as well as usual, and went to work. In a short time she was seized by such violent pain in her abdomen that she was obliged to return to her bed, and has remained there until brought to the hospital. She says she had not lifted any heavy weight, nor made any extra muscular effort, the day preceding or the morning of her attack; that she knows of nothing that could have brought it on. Her bowels had been regular; menstruation also regular and painless. On admission, the patient presented the appearance of a very muscular and well-developed girl. Ruddy cheeks, and full, rounded form, indicated her previous good health. She seemed to suffer intense pain, referred to the whole abdomen. She could scarcely walk, and when she attempted to do so, bent far forward, in order to relax the abdominal muscles as much as possible. Physical examination showed abdomen slightly distended generally; small umbilical hernia readily reducible; no particular tenderness over any part of the abdomen; palpation discovered a hard, or rather *solid* feeling, mass, occupying the whole of the right iliac region, extending over into the left iliac region to within seven centimetres of the left anterior superior iliac spine, and from this point diagonally upwards (with a distinct free border, having no discoverable notch or indentation) across the umbilical region, into the right hypochondrium, to within five centimetres of the lower border of the ribs; this whole area having a perfectly solid feel, except along the free border, where a peculiar crepitation was felt upon grasping it between the fingers. Percussion note perfectly dull over the whole tumor; no tenderness; hypodermic needle introduced without withdrawing fluid. Vaginal examination showed that the mass filled the right iliac fossa completely, extending behind the uterus, and pushing it so far forward that it was almost shoved over the symphysis pubis—and reached into the left iliac fossa; perfectly solid and *immovable.* Changing of the position of patient in various directions seemed not to vary the position of the tumor the least. Rectal examination added no new light. The form, feel, percussion, and aspiration suggested that it might be the liver displaced downward, its right lobe resting in the iliac fossa, and left lobe upward to the right. *Palpation and percussion over the normal site of the liver showed that organ in place, however;* stomach much distended; percussion over the natural splenic area *seemed to show the spleen in place.* There was certainly sufficient dulness to indicate the presence of a small viscus. Examination of urine negative. Other organs all seemed healthy. Temperature upon admission, 100° Fahr. Complete rest in bed with opium and belladonna suppositories to relieve the pain, and one mercurial purge were ordered.

On the third day after admission, the patient's condition remaining about the same, Dr. Noeggerath, the visiting gynecologist, was called in to see her. The patient was thoroughly examined by us both, under an anæsthetic, without any further discovery except that the right ovary could not be felt, while the left one was easily found. Dr. Noeggerath concluded it was a case of sarcoma of the right ovary.

On the tenth day, six days after this examination, the patient complained for the first time of exquisite tenderness in the right iliac region, and soon developed a case of marked general peritonitis, which subsided after ten days of opium internally and hot water applications externally. It was at this time noticed, much to every one's surprise, that the tumor was markedly lessened.

Four days after this, it is noted, "tumor almost entirely disappeared, only slight induration felt in right iliac region. Vaginal examination shows a corresponding disappearance of the mass from the pelvis. Patient extremely weak and reduced." At this time extreme gastric irritability manifested itself. The patient was at first unable to retain the milk punch which was given her in small quantities, then rejected milk and lime-water as soon as taken, and steadily grew worse, until she vomited almost incessantly, notwithstanding the administration of every remedy known for vomiting, one after the other. Three days of this sufficed to end her life; she died on the 27th, twenty-five days after admission. After the peritonitis, she had no considerable rise of temperature, nor did she complain of any pain or tenderness in the abdomen of any marked degree, until just before she died, when her temperature shot up to 103° Fahr., and she had great pain in the abdomen.

Autopsy, twenty-four hours after death. — Body reduced to skin and bones, so great was the emaciation. Percussion over right iliac region was still, as it had been several days before death, *dull*, almost *flat.* No solid mass felt anywhere over the previously *solid* area. Upon opening the abdominal cavity, a very marked fecal odor was at once noticed. As the incision extended below the umbilicus, there was a large discharge of very fetid pus. Upon examination, it was found that the pus proceeded from an abscess cavity, extending from the level of the umbilicus to the bottom of the cul-de-sac of Douglas, involving the whole right side from this level, and extending to the left no further than the middle line. Intestines in juxtaposition with the abscess, gangrenous, and the ileum was found perforated about its middle, near the mesenteric attachment. A small quantity of blood extravasated into the peritoneal cavity, and quite a large quantity into the intestine itself. Liver much enlarged, and paler than normal. Kidneys also enlarged and pale. The spleen could not at first be found; at last, however, a grayish, sloughy mass, which seemed at first to be

mesentery, upon close examination proved to be the *pancreas*, extending, tail foremost, almost vertically downwards, the head retaining an almost normal position, while the tail was found in the right iliac fossa, near the middle line. In this fossa, after searching some time, a small, flat, soft piece of detached tissue, about five centimetres long by three centimetres broad, was found, which proved, upon minute examination, to be remains of the spleen. That it was splenic tissue, several gentlemen who were present at the autopsy, and others who examined it afterward, bore witness.

The stomach's ligaments seemed elongated, and the organ itself seemed dragged slightly downward. The other organs were normal.

The etiology of this case must be simply conjectural. My own theory—the only one I know of with reference to it—is as follows: It would seem that the patient had congenitally a "wandering spleen." Belonging to the poorer class of Austrian peasantry, she was accustomed to undertake the work of a common farm laborer. While at work in the fields she made some violent effort, and thus by muscular action forced this spleen, with elongated attachments, bodily into the right iliac region. This was followed naturally by very violent inflammatory action, giving rise to her first attack, which her physician called "*liver* fever"—the passive congestion and consequent enlargement of the spleen being very naturally in that situation taken for the liver. The sudden displacement, so powerfully brought about, gave the bloodvessels and nerves, common to the pancreas and spleen, no time to accommodate themselves to the changed condition, and their connection, together with the fold of peritoneum from the pancreas to the spleen, sufficed to bring the tail of the pancreas, by a sort of somersault, along with the spleen. The extreme tolerance of the abdominal viscera to abnormal relations and pressure, is constantly exhibited in cases of wandering kidneys and spleens, as well as the pathological conditions of abdominal tumors involving the various organs. It would not appear impossible, therefore, that the displaced viscera in this case should have returned to the proper performance of their functions, and that the patient should have regained a tolerable degree of health. In this position there must have been a continual passive congestion of the spleen, which would, and no doubt *did*, lead to an interstitial splenitis (cirrhosis or fibroid degeneration). The recurring attacks may be explained by causes similar to first, *i. e.*, some slight over-exertion with the organ in its then position would easily excite a local inflammation of the peritoneum or cellular tissue around the caput coli. Her last attack was probably due to malaria. An already chronically enlarged spleen, its parenchymatous tissue well-nigh replaced by fibroid tissue, suddenly congested by a specific morbific agent—the bloodvessels being necessarily implicated in the previous tissue changes—with chronically dilated walls of vessels and loss of contractility, there would be almost a complete stasis, enormous extravasation, and all the concomitant changes of a destructive inflammation, the result being extensive suppuration, and as the sequel proved, general peritonitis, and finally sloughing of the spleen and pancreas.

The above is, of course, merely offered as one supposition, and the most plausible one that has yet suggested itself. The actual facts at all events, as far as known clinically, are faithfully given. I should be glad to have any other explanation of the phenomena that may occur to any member of the profession.

FRACTURE OF SKULL; TREPHINING; DEATH FROM ABSCESS.

BY R. A. KINLOCH, M.D.,
OF CHARLESTON, S. C.

(*Read at the Meeting of the South Carolina Medical Association, April, 1882.*)

SCOTT MAXWELL, colored, æt. thirty-five, admitted into City Hospital, February 11, P.M., 1882. While working in a pit at one of the Phosphate Works outside of the city, was struck upon the head by another workman with the flat portion of a shovel. He was felled to the earth, and was senseless for some time. After a few hours, recovered sufficiently to be sent in a wagon to the hospital. He then presented the mixed symptoms of concussion and compression, the former predominating. He was placed in bed, head elevated and kept cool, and absolute quiet enjoined. Later an enema was given to empty the bowels, and large doses of potas. bromide directed to be given in the event of restlessness. Upon careful examination no fracture could be discovered, but only a slight abrasion of scalp over right parietal bone, with bloody extravasation under scalp, and general swelling of the soft tissues over the vertex.

Feb. 16.—This A.M. it was reported that patient had had several convulsions in the night, and during one of these had fallen out of bed before the nurse could reach him. The symptoms of compression were more marked, but were not extreme, the pulse was slow, and the temperature slightly below normal.

Dr. Kinloch expressed the opinion that there was likely a fracture of the inner table of the skull, with bloody extravasation upon the dura mater, and beginning effusion, possibly a fissure of skull running into the base. He concluded that the case would likely be hopeless, but that trephining offered the best chance for life.

At 12 M., patient was carried before the medical class, and operation performed under chloroform and with antiseptic precautions. The natural inference from the abrasion over the right parietal bone, and the evidences of contusion there, was that this side of the head had received the force of the blow. The trephine was consequently applied at this point. Upon opening the skull the dura mater was found exceedingly tense, and seemed to crowd into the opening made by the trephine. No signs of fracture or of bloody extravasation beneath the skull could be discovered. The tension of the dura mater was such that it was thought proper to puncture the membrane. This liberated a considerable amount of bloody serum. No further procedure was considered advisable. Wound was dressed with car-

bolized oil upon lint, and several layers of borated cotton superimposed. Patient was put to bed, ice cap ordered to the head, thirty grains of potas. bromide to be given three times a day, and one grain of calomel every four hours. I omit the clinical notes for the first two days.

19th.—Up to this date the patient's temperature had remained below normal. To-day at 9 A. M. the temperature was 102.2°; pulse 72. 9 P. M., temperature 103°; pulse 76.

20th.—9 A. M., temperature 103.5°; pulse 92. 9 P. M., temperature 103°; pulse 76. Calomel stopped to-day, as salivation was evident.

21st.—9 A. M., temperature 100°; pulse 92. 9 P. M., temperature 101.2°; pulse 96.

22d.—9 A. M., temperature 101°; pulse 80. 9 P. M., temperature 101°; pulse 92.

23d.—9 A. M., temperature 102°; pulse 92. 9 P. M., temperature 103°; pulse 100.

24th.—9 A. M., temperature 104°; pulse 64. 9 P. M., temperature 106.5°; pulse 60.

25th.—During day, temperature 103.5°; pulse 68.

26th.—During day, temperature 103°; pulse 84, and scarcely to be felt. Patient expired this evening.

27th. Autopsy.—Skull was found fissured through the whole parietal bone of the *left side*, the fissure running to the base; bloody extravasation between skull and dura mater on *left side*. Between dura mater and brain on *right side*, and extending to frontal region, was a large collection of pus. There was also a small abscess in the substance of the right cerebral lobe, contiguous to the opening in the skull made by the trephine. This abscess was evidently the cause of death.

Remarks.—It will be observed that my inferential diagnosis as to fracture and bloody extravasation was correct, but the fracture was on the opposite side of the head, and not confined to the inner table. It is probable that the patient had received more than one blow with the flat of the shovel, and hence we were deceived in attempting to locate the injury of the skull. The character of the blow was such as to warrant the belief that the inner table had chiefly suffered. Such a blow might well illustrate the views of Mr. Teevan in regard to fracture commencing in the *line of extension*, and not in that of *compression*. Fractures of the inner table alone must be ever obscure, and their diagnosis *always inferential*. The use of the trephine in skull injuries generally, is still a matter of disputation. The propriety of operating after a mere inferential diagnosis will be objected to by the majority of prudent surgeons, who, nevertheless, recognize the close analogy between punctured fractures and simple fractures of the inner table alone. Listerism will perhaps make many surgeons more disposed to venture an operation in head injuries, as they are in injuries of other regions. The conservative opinions of Stromeyer, who thinks it fortunate that fractures of the inner table escape detection *because they thus also escape operation*, will hardly check the tendency of the age to bold experimental procedures. We are indebted to Dr. Lidell, of New York, for most valuable reports and able arguments in controversion of the views of Stromeyer, and those who think with him. I am rather inclined to favor a hopeful and a progressive surgery, and, as my practice in the above case will show, to give the sufferer the chances of an operation in doubtful cases. The result of my venture in this particular instance, however, may be regarded as an argument against the doctrine I have accepted. The most reasonable conclusion is that my patient died from the operation. Whether he would have survived under expectant surgery is a matter only for speculation.

HOSPITAL NOTES.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

(Service of PROF. ASHHURST.)

URACHAL FISTULA.

(Reported by H. R. WHARTON, M.D., DEMONSTRATOR OF CLINICAL SURGERY IN THE UNIVERSITY OF PENNSYLVANIA.)

W. K., aged nine months, was sent to PROF. ASHHURST'S clinic by Dr. A. J. Marcy, of Riverton, N. J., and upon examination presented a flattened tumor about the size of a filbert, occupying the position of the umbilicus, it was covered with mucous membrane, and in its centre there was a depressed opening through which occurred a constant discharge of urine; there was no phimosis or other obstruction to the free passage of urine through the urethra.

The case was diagnosed as one of urachal fistula or patulous urachus, and an operation was decided upon for its relief.

The child was etherized, and a slender cautery iron heated to a dull-red color having been dipped into the fistulous tract, so as to destroy its mucous lining, a needle armed with a double ligature was passed through the base of the tumor, the needle was withdrawn, and the ligatures tied so as to completely strangulate the mass; which was then cut off below the ligatures, and the cautery thoroughly applied to the stump. The case was kept under observation for several days, when, as the patient presented no unfavorable symptoms, he was sent to his own home.

Several weeks after the operation Dr. Marcy reported that the slough had separated, that no urine had escaped from the fistula, and that the wound had healed, leaving an umbilicus normal in its appearance.

Remarks by DR. WHARTON: Urachal fistula is caused by a patulous condition of the urachus, which, it will be remembered, represents a tube in the embryo extending from the bladder to a pouch called the allantois, situated outside of the abdominal walls; this tube is obliterated in early fœtal life, and is recognized after birth as a band extending from the umbilicus to the bladder.

The patulous condition of the urachus is generally attributed to some obstruction to the free passage of urine from the bladder, as a narrowing of the meatus, complete atresia, imperforate prepuce or phimosis.

In addition to the annoyance caused by the constant escape of urine accompanying this condition, the formation of calculi has also taken place in the patulous urachus, as is shown by the case of Boyer, reported by Gross, and cases reported by Cabriol, Paget, Amussat, Vosburg, and Henriette. The number of reported cases of urachal fistula are few, and in many of the text-books on surgery the condition is not described.

Agnew[1] mentions a case of incomplete urachal fistula

[1] Agnew, System of Surgery, vol. i. p. 388.

in which the umbilicus became distended when urine was allowed to accumulate in the bladder.

Ashhurst[1] has seen two cases, and records five others seen by Guéniot, Jacoby, Rose, Charles, and Worster.

Gross[2], under the title of patent urachus, describes the condition and mentions several cases.

Bryant[3] mentions one case seen by himself, which was not subjected to operation.

The treatment of this condition consists first in the removal of any obstacle to the free escape of urine from the bladder, and if this should not accomplish the object, the fistula may be closed by a plastic operation, by the use of the ligature, by the application of the actual cautery, or, as in the case reported above, by the use of the ligature and cautery combined.

MEDICAL PROGRESS.

EXTIRPATION OF THE UTERUS BY THE VAGINAL METHOD.—DR. EUGENE HAHN gives in the *Berliner klin. Wochenschrift* his experience of this operation. He has performed it seven times, with two deaths. Five out of the seven were for carcinoma, and two for prolapse. One of the deaths was from peritonitis, and the other from bronchitis, with pelvic peritonitis and pelvic abscess, all of which conditions are stated to have been present before the operation. The following is the method of performing it practised by Dr. Hahn: During the twenty-four hours prior to the operation the vagina is repeatedly syringed with a five per cent. solution of carbolic acid. Shortly before the operation, if disinfection should not appear complete, the surface of the new growth is scraped, and a twelve per cent. solution of chloride of zinc is applied. The tumor is seized with broad toothed forceps, and, by incisions round it, is separated from the healthy tissues. Anteriorly the bladder is dissected off, and the peritoneum opened; and then posteriorly the peritoneum is opened in like manner. Then the structures contained in the right broad ligament are successively ligatured from before backwards. The ligatures are passed with an aneurism needle. The tissues between each ligature and the uterus are secured by catch forceps, then the ligature tied, and the tissues divided between the forceps and the uterus. This being done, two fingers are introduced into the peritoneal cavity, and the uterus seized, and then the left broad ligament tied and cut through in the same manner as the right. The uterus having been removed, and the ligatures cut short, the abdominal cavity is washed out with a one-third per cent. solution of salicylic acid, and all blood-clot is removed. The most minute care is taken to stop all hemorrhage. Then the speculum is pushed up until the intestine is visible, and iodoform is sprinkled over it, and then, the speculum being gradually withdrawn, the parts exposed are likewise dusted with iodoform. Lastly, iodoform gauze is put in the vagina. In from twenty-four to forty-eight hours the dressings are usually soaked with discharge. The gauze is then removed, the vagina gently syringed with lukewarm solution of salicylic acid, the parts again dusted with iodoform, and iodoform gauze put in the vagina. This is repeated every twenty-four or forty-eight hours for eight or ten days, after which the discharge commonly ceases.—*Med. Times and Gazette*, June 24, 1882.

NEUROSES ASSOCIATED WITH THE VAGUS NERVE.—After noting the frequency of cardiac irregularity from indigestion, DR. ROSENBACH records (*Deutsche Med. Woch.*, 1882, No. 12) a case of cardiac irregularity caused by the horizontal posture, and a case of temporary central paralysis of the vagus nerve. The patient in the first case was a prematurely old man, aged 55, who complained that, as soon as he lay down in bed, he had a feeling of præcordial anxiety, and usually awoke in great distress, with the hands cold and stiff. With the exception of slight anæmia, some signs of arterial sclerosis, and a slight emphysema, there was nothing abnormal in his condition. The digestive functions were normal. His pulse in the erect posture was 72, regular, and moderately full; but, on his assuming the recumbent posture, with the head low, it fell to 60 or 64, and became irregular and intermittent, all which characters disappeared almost immediately on his assuming the erect posture again. Dr. Rosenbach, considering that he had excluded all other possible causes, attributes this phenomenon to the change in the outflow of blood from the cranial cavity. This outflow being much less free in the horizontal than in the erect posture, as shown by the more rapid current in the veins at the root of the neck when the erect posture is assumed, he considers that in a patient with arterial sclerosis the tonus of the vagus and of the vasomotor nerves produced by the venous blood will cause retardation of the heart's beat, with increased arterial tension. The patient in the second case was a man, aged 31, affected with phthisis. While in hospital, he was attacked with vertigo and headache, his pupils being extremely narrow. Two days later he became insensible, breathing once, or, at most, twice a minute, while at the same time the heart was extremely frequent and tolerably full. Under artificial respiration, carried on for an hour and a half, the patient recovered. Each time the artificial respiration was stopped, the patient again ceased to breathe, and became cyanotic. That the vagus could still conduct impulses, was shown by the fact that electric stimulation with a strong current reduced the heart's beats from 156 to 100 or less, per minute. After the above period, Cheyne-Stokes's respiration set in, and for two hours longer the patient required to be roused occasionally. A month later, the patient died of tubercular meningitis. Dr. Rosenbach puts down the symptoms in this case to a central paralysis of the vagus, owing to a disturbance of nutrition in the respiratory centre of the medulla oblongata.—*London Med. Record*, June 15, 1882.

TEMPERATURE IN CARDIAC DISEASE.—A monograph upon the above subject has recently been published by M. SABATIER. His researches embrace the determination of the local temperature of the præcordia, as contrasted with the axillary temperature. He states the normal temperature of the præcordial region as 36.1°C. (about 97° F.), liable, however, to variations in different subjects. In pericarditis the axillary temperature is much raised in acute cases, but not influenced in chronic and subacute cases. The præcordial temperature is increased in acute and subacute pericarditis, but where there is much fever, as in acute rheumatism, the præcordial temperature is lower than the axillary. When the local inflammatory process is very intense this difference may be reversed. When right-sided pleurisy coincides with pericarditis, local thermometry indicates the relative intensity of the two inflammatory processes. During endo-pericarditis the local temperature does not subside so soon as the general. In endocarditis there is no local rise in temperature, a point of distinction from pericarditis. In cardiac hypertrophy the præcordial temperature is the same as, and sometimes lower than, that of the opposite side. Vesication applied to the præcordia keeps the temperature at a high level for several days. Numerous tracings are given and, although the subject is limited and, per-

[1] Ashhurst's Surgery, p. 937.
[2] Gross, Urinary Organs, p. 368.
[3] Bryant's Surgery, p. 484.

haps, hardly sufficiently fruitful, considering the labor expended upon it, it is the first contribution to local cardiac thermometry that has been made. The author believes that the method is a valuable aid to diagnosis, and that the local temperature of the cardiac region should always be estimated. It is of most importance at the close of the acute period, when the axillary temperature has become normal.—*Lancet*, July 1, 1882.

THE TREATMENT OF ERYSIPELAS.—DR. HASTREITER recommends the treatment of epilepsy by painting with oil of turpentine, on the following grounds:

1. It can be employed on the most sensitive patients, does not require any skill, and can be applied by the patient himself as often as may be necessary, and the irritation produced by excessive friction is avoided. During its application the eyes should be protected by a pad.
2. When employed frequently enough this method is perfectly safe, and tends to produce a rapid cure.
3. Oil of turpentine can be procured everywhere.
4. All other dressings are unnecessary.
5. Internal antipyretic treatment is only rarely necessary; usually all that is necessary is to bathe the body with cold water, and to make use of cold applications to the head.
6. The inhalation of the vapor of turpentine can perhaps act as a preventive of the extension of the disease to the air passages.
7. When employed at the outset of the disease it may abort the morbid process.
8. The oil of turpentine may also be employed in phlegmonous inflammation other than erysipelas.—*Wiener Med. Presse*, June 18, 1882.

CHARACTERS OF THE URINE IN YELLOW FEVER.—DR. CULBERTO PENA (*La Escuela de Medicina*, Mexico, Feb. 15, 1882) publishes a series of observations which he has made on the condition of the urine in yellow fever. In nine cases in which the vomiting was present, albumen was only found in one, and then in very small quantity. In the course of an epidemic that he had the opportunity of observing, albumen was absent in one-quarter of the mild cases and in thirty-seven per cent. of the grave cases. The reaction was nearly always acid, being alkaline or neutral in only four per cent. The color was variable, being at first clear, but becoming turbid during the course of the disease. Bile pigments are not present as a rule, being only met with twice in two hundred examinations.—*Journ. de Méd. de Paris*, June 24, 1882.

PORRO OPERATIONS.—The last case reported was that of Dr. Dozzi, of Italy: operation performed on March 10, 1882. The subject was a dwarf, 28 years old, measuring in height (79 cm.) only 31⅛ inches, and having a deformed pelvis. The membranes had been ruptured eight or nine hours when the section was made; the fœtus was delivered alive but died before the operation was concluded; the woman died of shock in 24 hours.—*Gaz. Med. Ital. Prov. Venet.*, No. 22, June 3, 1882.

This case gives Italy 36 operations, with 22 deaths and 14 recoveries. There have been in all 91 operations, as far as reported, with 38 recoveries.

Ignatio Cataliotti's Case.—This was first reported from Italy as the work of Dr. Camminiti, of Messina. Dr. Cataliotti operated at Palermo, on October 28, 1880, on a woman 40 years of age, affected with a large fibro-myoma of the uterus, and ascites; the fœtus was delivered alive, and the woman recovered.—*Stamperia Militare*, 1882.

Dr. Negri also reports a case under the head of "*Bayer*," of Stuttgart. Our tabular record shows this operation to belong to Prof. Fehling, May 4, 1881; the woman and child were saved. Operation performed after the modification of Müller.

Dr. Marchand, of Paris, has performed Prevôt's operation, *i. e.*, the amputation of the uterus through the cervix and its removal, in a case of rupture of the organ in labor. The child was dead, and the woman died of peritonitis. This method has not yet saved a case of rupture. The uterine suture promises much better results. Let the abdomen be thoroughly cleansed of blood, and the uterus well sutured with silver wire or pure silk, at short intervals, along the whole line of the laceration.

A CASE OF PHLEBECTASIS.—RIEDEL (*Centralb. f. Chir.*) reports the case of a man 42 years old, always healthy, member of a family in which apoplexy frequently occurred, who acquired in the course of two or three months a stupid expression of countenance, with, later on, determination of blood to the head, rushing sounds in right ear, giddiness on stooping, and troublesome burning of face. A few days later there was well-marked facial cyanosis, especially on the right side. The veins of the chest on the same side were full and distended, and at the anterior border of the axilla a tortuous varicose vein was visible. In the right supra-clavicular fossa there was a tumor the size of a hen's egg, from whose upper margin the dilated external jugular vein ran upwards. Pressure on this non-pulsating tumor caused it to disappear, whilst the patient experienced loud rushing noises in the ear. On cessation of pressure, the tumor, whose lumen could be traced for some distance into the chest, resumed its former size. There was a similar, though much smaller, tumor on the left side. The heart and other organs were found to be normal. Under daily injections of ergot the swellings rapidly disappeared, becoming flatter and harder, and the subjective symptoms ceased. As a central obstruction of the circulation may be excluded, Lindner is inclined to regard a chronic phlebitis, specially localized in the neighborhood of the valves, as the cause of the symptoms described. Owing to this process the venous walls become affected in such a manner that they give way under the moderate pressure of the blood-stream, retarded somewhat by the altered valves.—*Edinburgh Med. Journ.*, April, 1882.

THE CAUSES OF THE NORMAL JUGULAR PULSE.—M. FRANÇOIS-FRANCK has communicated to the Société de Biologie (*Journ. de Méd. de Paris*, No. 11, 1882) the results of his experiments upon the production of this phenomenon. He finds that, when pericardial aspiration is excluded by opening the thorax, it persists; it persists, also, when the communication is momentarily interrupted between the right ventricle and the right auricle, and when the ventricular systole is stopped by irritation of the vagus. It disappears when the systole of the auricle is produced by mechanical irritation or other means, and when the systole of the auricle is displaced, so as to occupy a phase of the diastole. The venous pulse is also displaced. All these facts tend to the conclusion that the normal jugular pulse is produced by the systole of the right auricle.—*London Medical Record*, June 15, 1882.

RELATIONS OF GELSEMIC ACID AND ÆSCULIN.—PROF. WORMLEY, in a series of careful experiments, conclusively refutes the assertions of Sonnenschein and Robbins as to the identity of these two principles, and he gives results from which it would appear that in gelsemium poisoning evidence of the poison in the blood may be more readily and fully obtained than in the case of any of the other vegetable poisons.—*Amer. Journ. of Pharm.*, July, 1882.

Acute Dilatation of the Heart.—Dr. M. Heitler has, in recent numbers of the *Wiener Medicinische Wochenschrift*, touched on a subject of great importance. A sudden or rapid dilatation of the heart does certainly occur under many circumstances; but we think it is necessary to draw a distinction between different forms. There is that which happens in connection with many acute exhausting diseases, such as puerperal fever, typhoid fever, pneumonia, and so forth; and of this nature, or something akin to it, is probably the dilatation which is met with in chronic anæmia. In all these cases there would seem to be undoubted change in the structure of the cardiac muscular walls. But the question is whether we cannot have a dilatation of even more rapid arrival, and which, consequently, can hardly depend on universal softening of the heart's musculature; whether, in fact, "idiopathic dilatation" can occur. Dr. Heitler seems to have observed cases which must come under this division. He talks very confidently of rapidly appearing and as rapidly disappearing enlargement. This he has demonstrated in chronic valvular disease. We are inclined to agree, and think that the remarkably sudden variations in the health of sufferers from chronic cardiac maladies may here find an efficient explanation. Truly acute dilatations of the heart are believed to occur in soldiers during campaigns, and in persons strenuously exerting themselves physically. Dr. Heitler has no experience of such cases. Some authors have taught that such rapid enlargements may ensue on nervous exhaustion, resulting from debauchery and sexual excess. It is possible also that the sensations and illness of amateur mountaineers may be due to the same state. To the symptoms, physical signs, and differential diagnosis of dilatation, Dr. Heitler adds no new knowledge. In treatment, great confidence is placed in digitalis. Further, Dr. Heitler believes that percussion, such as is practised in ordinary physical examination, is capable of bringing about a diminution in the size of the heart. If such occurrences do happen, then it would seem quite certain that we have to do with a reflex action; and inherently there is no improbability. Goltz long ago showed that the frog's heart could be stopped in diastole by tapping the epigastrium, and why should not a contraction be brought about in a reflex manner? Moreover, it may be that any external application whatsoever, such as mustard plasters, act in this manner. We have not yet got at the bottom of reflex actions as a mode of treatment, and we can heartily recommend our readers, if they have not already done so, to study Dr. Lauder Brunton's article on this subject. On so-called "idiopathic dilatation," authors' beliefs are still conflicting. The subject has been treated very fully, indeed, by Seitz, who strongly urges the fact of its occurrence. Schrötter holds the opposite view.—*Medical Times and Gaz.*, July 1, 1882.

A Convenient Method of Demonstrating the Bacilli of Tubercle in Sputa.—Baumgarten gives the following method of staining tubercle bacilli, as easier and more expeditious than those recommended by Koch or Ehrlich. Dry preparations of the tubercular sputa are prepared according to Koch's or Ehrlich's method, and moistened with a very dilute solution of potash; the bacteria can then, without further treatment, be readily detected with a power of 4–500 diameters. Slight pressure on the cover slip will serve to bring them out more clearly. In order to distinguish the bacilli of tubercle from other species, the cover slip is removed from the slide, and laid to one side until the moisture on its under surface has dried off; it is then passed two or three times through the gas flame, and then moistened with a drop of dilute anilin violet or other nuclei-staining anilin color. Now, under the microscope, the putrefactive bacteria are stained a deep-blue, while the tubercle bacilli remain perfectly colorless, as when in the potash solution. The entire process need only require ten minutes, and is, therefore, to be recommended for general use.—*Centralb. f. d. Med. Wissen.*, June 24, 1882.

Treatment of Hemorrhage from the Palm.—Dr. Randolph Winslow gives the following as expressing his conclusions from a study of this subject:

1. Hemorrhage from the palm should be treated by ligating or twisting the bleeding vessels *in situ*, when this can be done without undue disturbance of the tendons and other tissues.

2. This being impossible, compression should be applied in the wound by means of a graduated compress or conical cork, flexion and pronation of the arm being also employed, or the hand may be bound tightly over a ball of wood or cord.

3. Acupressure may be used to the radial artery, but it is not safe to compress the ulnar in this way, as the nerve is in close proximity on its inner side.

4. Other measures failing, ligation of the main vessels should be performed.

5. Owing to the frequent anomalies of the brachial artery, it is better to ligate the radial and ulnar immediately above the wrist, than to tie the brachial itself.

6. The hand should be wrapped in cotton wool, fixed upon a splint, and placed in a sling.—*Maryland Med. Journ.*, July 1, 1882.

Intra-cranial Disease and Choked Disk.—Dr. Edward G. Loring contributes to the June number of the *New York Medical Journal and Obstetrical Review* an article on the nervous connection between intra-cranial disease and choked disk, the conclusions of which are: 1. That the vaso-motor theory, as advanced by Benedikt, is not sufficient to explain either the mode of transmission of the morbid irritation within the head, or the resulting neuritis optica. 2. That the irritation is conveyed, not by the isolated fibres of the sympathetic system, as stated by Benedikt, but through the agency of the trigeminus. 3. That choked disk or papillitis, in connection with brain disease, is the expression of an irritation or compression of certain intra-cranial fibres of the fifth pair which preside over the blood supply of the disk and neighboring parts, and also maintain the healthy processes of waste and repair of the tissues themselves. This being so, he adds, the same analogies and distinctions between "irritation" and "inflammation" can be made here as with sympathetic ophthalmia, so that here, as well as there, the irritation may exist as such for an indefinite time, or may so reduce the vitality and resisting power of the tissue of the disk and surrounding parts as to develop gradually, or explode suddenly, into an actual inflammation—that is, into a neuritis. The immediate and exciting cause of this neuritis may be either an external one, such as exposure to cold or heat, over-exertion, either mental or physical, or, indeed, too much exposure to the light, the effects of which, under the weakened condition of the organ, may be looked upon as a "traumatism;" or the exciting cause may be an internal one, such as some irritation from the condition of the blood and circulating fluids, either chemical or mechanical, either local or general, which insufficient in itself to produce any bad effect upon a normal disk, may yet be just sufficient to produce a condition of inflammation in a part that is weakened and irritable.

Antiseptic Nephrectomy by Abdominal Section; Recovery.—Mr. F. B. Archer reports the following case: M. E. A. L——, a widow, aged fifty, was ad-

mitted into the General Hospital, Bridgetown, Barbadoes, West Indies, on September 13, 1880, under my care. She had had five children. The menses stopped about eight years ago, soon after a fall, which fractured one of the lower ribs on the right side. While ill in bed, suffering from this, she observed a lump about the size of her fist on the right side of the bowels. This lump has never disappeared, but has slowly grown to its present size. It has caused her no particular trouble, but she has lost flesh. Her appetite and general health are good. She has never been tapped. Ten months ago she was in this hospital, and an ovarian cyst was diagnosed, and an operation advised. This she declined, and returned home. She now begs to have something done. Urine contains a little albumen. On microscopical examination no casts are seen. Temperature normal.

On September 14th she was put under chloroform and then ether substituted. Under a spray of carbolic acid an incision was made and a good many adhesions broken down. The cyst seemed matted to the right kidney, and on attempting to clear it the weight of the cyst tore the kidney, and considerable hemorrhage occurred. A clamp was put on, a ligature applied, and the kidney and tumor removed. It contained eighteen pints of fluid, and the cyst itself weighed five pounds. The patient was in a great state of collapse. A drainage-tube was inserted and the wound closed. She vomited five times after the operation, complained of great shortness of breath and pain in the head.

On March 14, 1881, she left the hospital quite well. By the last account she was enjoying good health.

Mr. Knowsley Thornton, through whom the notes are forwarded for publication, remarks that this is one of the best cases of nephrectomy yet published, due regard being paid to the quantity of fluid contained in the cyst, and the weight of the latter, the age of the patient being also taken into consideration. Convalescence, however, was very slow.—*Lancet*, July 1, 1882.

THE ABSORBENT ACTIVITY OF THE STOMACH.—A recent number of the *Berliner klin. Wochenschrift* contains an article by Prof. Penzoldt and Dr. Faber (Erlangen), which is an attempt to place at our disposal a new means for diagnosis of diseases of the stomach. The observations were made with the idea of determining whether the activity of absorption of soluble substances varied in any regular manner with different affections of the stomach. The investigations were conducted thus: The observed swallowed a gelatine capsule loaded with solid iodide of potassium, which when it arrived in the stomach was there dissolved and absorbed, and partly reappeared in the secretion from the salivary glands. Some saliva was then tested at intervals by means of starch papers and fuming nitric acid. At first a red, later on a blue, coloration was developed. In healthy subjects from seven to fifteen minutes elapsed ere the blue color was fully obtained. Some experiments on sufferers from (1) ulcus ventriculi, (2) dilatation of stomach, and (3) ill-defined gastric disorders, were made, and the results compared with those got from healthy individuals. So far the results are of no practical value.—*Med. Times and Gazette*, June 24, 1882.

PAROXYSMAL HÆMOGLOBINURIA.—BOAS (*Centralb. f. d. Med. Wissen.*, No. 20, 1882) reports a case of paroxysmal hæmoglobinuria, and deduces from its study, and of two other cases previously published, the following conclusions:

1. Paroxysmal hæmoglobinuria is a distinct disease, *sui generis*, and can be sharply defined from other forms of hæmoglobinuria.

2. The access of paroxysmal hæmoglobinuria is always attributable to the influence of cold, especially on exposed parts.

3. The intensity estimated by the coloration of the urine and the general symptoms, is directly proportional to the severity and duration of the chilling.

4. The spontaneous attack and those produced experimentally, are absolutely identical.

5. The fundamental change lies in the destruction of the red corpuscles with the passage of the hæmoglobin into the plasma; the general symptoms are only the consequence of this alteration.

6. This distinction is limited to the parts directly exposed to the action of the cold, though, of course, the products of disorganization are carried to all parts of the system.—*Gaz. Méd. de Paris*, June 10, 1882.

EXAMINATION OF THE EAR.—M. GEILÉ (*Progrès Méd.*) has made an experiment of great clinical value; it permits, in certain cases of defective hearing, to locate the lesion and to recognize abnormal action of the stapes and of the apparatus of accommodation. A vibrating tuning-fork is placed upon the frontal eminence of the patient; in his ear is fixed a tube of rubber whose other extremity, closed by a diaphragm of gold-beater's skin is placed to the ear of the observer; this otoscope has inserted at its middle an insufflating bulb.

The apparatus being arranged, the vibrations of the fork follow the cranial bones and are transmitted to the tympanic membrane. The patient perceives a sound which is transmitted by the vibrations of the tympanic membrane and of the air of the tube to the ear of the observer. If now, by the aid of the bulb, the tension in the tube be augmented, that is, if the membrana tymyani of the patient be compressed, his accommodative apparatus, which has lost its integrity, will perform its functions abnormally, the stapes will penetrate more or less in the fenestrum ovale and the sound of the tuning-fork will no longer be the same for the patient and for the observer; the lesion can be immediately localized in the apparatus of accommodation.—*St. Louis Medical and Surgical Journal*, July, 1882.

STRETCHING THE INFRA-ORBITAL NERVE.—COPPEZ (*Ann. d' Oculistique*, Feb. 1882) succeeded in curing a neuralgia of twenty years' duration by stretching the infra-orbital nerve. The neuralgia had been periodic for fifteen years, but for the last five had been almost continuous, and entirely interfered with work. The supra-orbital was also affected, apparently as severely as the infra-orbital, and it was intended to stretch it as well if the first stretching had not succeeded. Immediately after the operation the zone comprised between the nose and middle of the cheek, the half of the upper lip, and the mucous membrane covering it, were completely anæsthetic. The sensibility began to return three days afterwards, and was complete after five days. A little more than two months had elapsed since the operation, without the return of the slightest pain.—*Edinburgh Med. Journ.*, April, 1882.

FIRST CASE OF GASTRIC RESECTION FOR CANCER OF THE PYLORUS PERFORMED IN ITALY.—This operation was performed at the Surgical Clinic of Genoa, on June 14, 1882, by PROF. AZZIO CASELLI, upon the diagnosis of Prof. Maragliano, of "partial stenosis of the pyloric orifice, the result of a carcinomatous neoplasm." The operation was completed in two hours. The elliptical mass removed measured four and three-quarters by four inches. The woman died of shock on the evening of the day of the operation.—*L' Independente*, July 5, 1882.

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CHOLERA INFANTUM.

As the season for cholera infantum is at hand, it may be useful to lay before our readers some recent experiences in its treatment. Certain points in its pathogenetic development require statement as a motive for the proposed therapy. The influence of diet, especially the ill-effect of a diet largely composed of starch, is too well known to require further expression. But behind and beyond the personal hygiene of the child, there is an important factor which has been entitled "*civic malaria*"—the sum of those causes of pollution arising out of the evil hygiene of towns and cities.

The mechanism of those forces by which cholera infantum is produced is probably as follows: The bad air (germs?) depresses the function of the splanchnics, the inhibiting nerves of the intestinal canal, as the pneumogastrics are for the heart. Prevost demonstrated that ablation of the spheno-palatine ganglion caused a profuse outpouring of serous fluid from the Schneiderian mucous membrane. The depression of the splanchnics probably has a similar effect on the vessels of the intestinal mucous membrane. This disturbance must necessarily be aided by the fermentation of the starchy aliment, taken in excess. High febrile heat and an algid condition will follow the former at the onset of the disease, the latter after persistent outpouring of fluid from the intestinal mucous membrane. The obvious indications are:

To check fermentation, and to destroy the minute organisms or germs on which every fermentation must depend for its development;

To allay irritation of the end organs of the splanchnics in the mucous membrane;

To arrest the outward osmosis from the vessels;

To lower the febrile temperature, and to remove the algid condition.

These indications must be grouped to be dealt with effectively. The three first given must be considered together as objects to be accomplished simultaneously. To stop fermentation by destroying the organisms necessary to the process, involves under these circumstances the use of remedies to restore the functions of the splanchnics. A most useful agent to check the nausea and vomiting is carbolic acid, which may be given in an emulsion with bismuth and a little glycerine. Remarkably good results are obtained from the use of potassium bromide in many cases, if given early enough. Nitric acid, well diluted in small doses, frequently repeated, is an efficient remedy in other cases. In still others, pure Cognac brandy renders an incontestable service. Calomel in minute quantity—from $\frac{1}{20}$ to ^{1} grain—has a place in the treatment of nearly all cases. Are there any definite indications for the employment of these remedies? We believe there are. Carbolic acid alone, or mixed with bismuth, is the appropriate remedy when there is a high degree of irritability, food being rejected as soon as swallowed, or in those cases characterized by the rapid fermentation of the foods in the stomach, resulting in the production of acid. Bromide of potassium is particularly indicated when, with high irritability of the stomach, there are restlessness, wakefulness, twitchings of the muscles, and fever. Whilst the bromide does not materially modify the morbid condition of the stomachal and intestinal mucous membrane, it does allay the irritation of the splanchnics and of the nervous system generally. Nitric acid is remarkably useful when the stools are acid, watery, and without any undigested aliment. It stops the fermentation which produces the acid, and it stimulates the flow of bile. It does more; it solicits the osmosis of the alkaline constituents of the blood into the intestine, and thus restores the proper alkalinity of the intestinal juices. Those who find it difficult to comprehend such an action will be enlightened by a study of the laws of diffusion or osmosis.

Brandy to be useful must be administered freely. It is not as a stimulant merely that it is to be given in this malady. Alcohol is a powerful antiseptic; by its oxidation, force is evolved; and brandy contains astringent matters. It is indicated when the depression is pronounced, when the derangement in the digestion and assimilation of food is due less to the deficiency in the juices, than to the depression in the function of the splanchnics. Brandy, of course, increases in importance as a remedy with the approach of the algid condition.

The *rôle* of calomel as a remedy has been warmly

discussed. Correct notions as to its action, and its proper place as a remedy, are gradually crystallizing out of the mother-waters of experiment and clinical observation. Formerly, the central idea of its administration was "to alter the secretions," this phrase including the biliary and intestinal. Without occupying space in discussing controverted questions, when we have room for merely a dogmatic statement, we will give an expression to the best-founded opinion. Calomel in small doses acts as a *sedative* to the gastro-intestinal mucous membrane, allays vomiting, and checks fermentation. Although the modern view is against the action of calomel on the biliary secretion, it seems to be well established that it does act on the intestinal glandular apparatus, and increases the elimination through them of the products of waste. Judiciously used then, in the small doses above mentioned, there are few cases of cholera infantum in which calomel may not be beneficial.

We have yet to discuss the treatment of the febrile state, and of its corollary, the algid. The condition of the gastro-intestinal mucous membrane precludes the administration of the ordinary antipyretic remedies. In many cases the range of febrile heat is great, the maxima of the thermal range encroaching on the danger line. Indeed, in cholera infantum, it is probable we have to deal with a specific fever. Besides acting on the causes of the febrile heat it becomes necessary to restrain the body temperature within proper limits. The development of hydrotherapy by our German *confrères* has led to a most useful application of the practice to cholera infantum. With the thermometer as a guide, the child should be immersed in water at 95° Fahr., and the bath then cooled to 75°, 70°, or 65°, according to the temperature of the body and the influence of the bath—cooled by the addition of sufficient cold water or of ice. Such is the general idea; our space is not sufficient for details. The time for the repetition of the bath cannot be arbitrarily stated, but it must be determined by the effect produced on the temperature. The influence of the bath is most conspicuous for good. Its value as a remedy for this condition can hardly, indeed, be overestimated.

The algid stage of cholera infantum offers the same difficulty in its management that the corresponding condition in cholera does. As regards the exhibition of alcoholic stimulants, it should be borne in mind that small doses frequently repeated will support the failing circulation, when large doses will have the opposite effect. Belladonna, or its alkaloid, atropia, is a powerful stimulant to the heart, which has been used with advantage in the algid condition. Nitro-glycerine will probably prove useful in the same condition by dilating the peripheral vessels, and thus permitting the heart to work under lessened pressure.

We have barely mentioned the subject of alimentation. The character of infant foods, and their relation to the subject under consideration, is too important to be dismissed in a few words. We therefore close the consideration of the medicinal management of cholera infantum, reserving for future discussion the questions connected with food and alimentation.

PRESIDENT GARFIELD'S CASE AGAIN.

The carefully prepared article of Dr. Baker which we publish in this issue constitutes another contribution to the ever-increasing literature of the Garfield case, the surgical problems of which, not only from the fact that they involved an illustrious life and the destinies of a nation, but also from their intrinsic importance, have possessed unusual interest for both the profession and the laity.

Dr. Baker has analyzed, in a painstaking manner, the evidence given at the Guiteau trial relative to the positions of the assassin and his victim, and makes therefrom several deductions as to the probable course of the first and of the second shot, concluding that it was the latter which proved fatal. It is not apparent how this affects the general proposition that a knowledge of the positions of the parties and of the course of the ball, until it struck the eleventh rib, could have been of little value in determining its further direction, or might even have led to an erroneous conclusion. Whatever arguments are urged as to the possibility of inferring the direction of the bullet after its contact with the ribs from its known course before it entered the body, are very much weakened by the extremely erratic course which missiles so often take after impinging upon resistant and resilient bodies like the floating ribs. Whether the President was turning to the left or to the right when he received the fatal wound, and whether it was the first or the second bullet which caused it, are questions of historic interest and also of dispute. We believe, however, that there is no dispute as to the general direction of the ball in its course from the muzzle of the pistol to the wound of entrance. There can be no doubt, and so far as we know it has not been questioned, that if *that* line were continued it would lead downward, forward, and to the left; but that without deflection it would represent the actual course of the ball, or that the surgeons, even if they had been familiar with all the facts which the Government, after the labor of months, and an exhaustive examination of a large number of witnesses, was able to elicit upon the trial, would have been justified in assuming that the missile had proceeded in that direction, we believe to be incapable of demonstration.

Dr. Baker does not allude to the fact that a line carried from the point of fracture in the twelfth rib, through that in the eleventh rib, and prolonged until it reached a point six feet behind the President, would have attained an elevation, which, allowing for all possible positions of the two ribs, would still have been far above the head of the assassin, or, in other words, several feet above the level at which he held the pistol. It is this *vertical* deflection which was described in Dr. White's article—to which Dr. Baker's is a reply—and all the testimony shows that at the time of the second shot the President was still standing erect.

It should be remembered, too, that, apart from these considerations, Dr. Baker's argument as to the surgical value of a knowledge of the positions of the parties depends entirely upon the literal exactness of witnesses who testified after a considerable lapse of time to the minute details of circumstances occurring during a scene of great excitement. If the muzzle of the pistol varied materially from the direction in which he believes it to have pointed, the whole problem from his point of view would necessarily be changed. In view of all the facts that the evidence as to the position of the parties, which was presented to the surgeons called in attendance immediately after the shooting, was that the first shot was the one that took effect, and that at the time the President was turning to the left, it seems to us that there is hardly sufficient basis upon which to build so elaborate a theory as Dr. Baker has presented.

As to the possibility of a diagnosis from the subjective symptoms, there can be no doubt that scores of such "snap diagnoses" were made all over the country, but there is also no doubt that the symptoms, singly or collectively, were insufficient to warrant them. The pains in the limbs—only symmetrical in the sense of being bilateral—were of unequal severity on the two sides, and had largely disappeared on the left side forty-eight hours after the shooting; in the absence of any loss of power, they had little value as a diagnostic sign of spinal injury, and could be accounted for as well without as with such a lesion.

Certainly no conservative surgeon would have allowed himself to be influenced by some of the additional arguments which Dr. Baker advances in support of this theory. Pain on one side of the scrotum; vomiting, extremely common after all gunshot wounds; a thready pulse, indicating hemorrhage, which, as the vessels lie near the spine, must have come, according to Dr. Baker, from that locality; the absence of paralysis; "daily evacuations," etc., can hardly be considered as pathognomonic symptoms of spinal injury.

The exact nature of the change in the splenic artery which led to its rupture, the immediate cause of death, will doubtless always be a matter of conjecture, but in the absence of any more plausible theory, with which Dr. Baker does not seem to be provided, we may assume that it was in one or the other of the ways already suggested in Dr. White's article.

The anatomical point Dr. Baker raises, based on the relative course of the ball and the artery, seems to be well taken. But here, again, he has misunderstood the situation. If the artery had been wounded at the time of the shooting, it does not follow, of course, that the aneurism developed immediately. It might have been the result of slow inflammation of the coats of the vessel. No one supposes that the false aneurism—the actual rupture of the coats of the vessel—took place earlier than about the time the President went to Elberon, or that it "existed eighty days," as Dr. Baker puts it. The reason for this opinion was given in the paper just referred to.

The cases quoted by Dr. Baker, in support of his opinion that the wound was not necessarily mortal, although not new, are interesting, but are not analogous, neither of them having been a *perforating* wound of the vertebra. In the first case, the injury was a penetrating wound, the circumstances of which, in regard to the opening of venous sinuses, the splintering of bone, etc., are always very different from those in which a ball inflicts the additional damage incident to a wound of exit. The clinical history also is very indefinite. In the second case, the wound of the body of the vertebra was merely a groove in its surface, and it may be said in addition, that to diagnosticate the position of a bullet in the left side of the body of a vertebra by digital examination made through a wound on the right of the spine appears to be incompatible with the usual length of the human finger.

Moreover, it has not been denied that a vertebra may be wounded and recovery follow, that a bullet may be imbedded in it, or that its body may be grooved without fatal consequences. Such cases, though uncommon, are not of exceeding rarity. They are by no means parallel, however, with that of President Garfield, in which the body of the vertebra was *perforated*, and it is unquestionable that no authentic instance of recovery after such a wound as this has ever been recorded.

We have been impelled to make this brief review of the points in Dr. Baker's paper, not from any desire to re-open an argument which we had hoped was permanently at an end, but because, recalling with regret the unjust newspaper criticism which has prevailed throughout the country, and, with indignation, the recent indecent tirades in Congress, we feel it our duty, for the sake of medical science

and for the honor of the profession, to take every opportunity of asserting our unchanged belief in the wisdom of the course pursued by President Garfield's surgeons.

SENATOR CAMERON'S JOINT RESOLUTION.

AN interesting correspondence has taken place between the Chairman of the Committee on Medical Legislation of the American Institute of Homœopathy, and the heads of the medical departments of the army and navy, through the medium of Hon. Charles O'Neill, M. C.

The homœopath wrote to ascertain if the Secretary of the Navy authorized any discrimination between the diplomas of homœopathic medical colleges in good legal standing, and "those of the allopathic, or so-called 'regular' school," in the admission of candidates to examination for the medical corps. He also wanted to know if a graduate of a regular medical college who avowed his belief in homœopathy would be considered eligible. He made the same inquiries in reference to the medical appointments of the army.

From Mr. Chandler, Secretary of the Navy, he received a reply stating that no discrimination was made in favor of or against any school. "The only requirements of the department are that a candidate, in addition to his moral and physical qualifications, shall possess the necessary professional and literary knowledge to enable him to pass the established examination." Certainly a most cautious and conservative answer, but one which, if we read between the lines, offers very little hope to the discontented applicants. We believe, after some opportunity of careful observation, that any fair-minded and impartial board of examiners acquainted with the exigencies of the service, and knowing the responsibilities which may at any time devolve upon the naval surgeon, would be compelled to reject, for lack of "necessary professional knowledge," applicants who had received their medical education at homœopathic colleges.

This assertion, which we make unqualifiedly, is founded not on a disbelief in therapeutic dogmas, but on positive knowledge of the radical defects in the character and methods of teaching the elementary principles of medicine—anatomy, physiology, etc.—which prevail in such institutions.

Whether it is proper to place the lives of the officers and men of our army and navy in the care of irregular practitioners is another question, and in this respect the very manly and straightforward letter of Surgeon-General Barnes meets with our entire approval. After calling attention to the fact, so commonly misunderstood by the laity, that the term "regular," as applied to a medical school, has no relation to its legal standing, but merely indicates that its teachings are not confined to the doctrines of any particular sect, he adds that the knowledge which a medical officer of the army should possess to enable him properly to perform his duties can only be obtained at a regular medical school, and that "it is not considered worth while to waste the time of the army medical examining boards or to induce young men to incur useless expense by extending invitations to appear before such boards to those who cannot furnish evidence that they have at least had an *opportunity* to obtain the knowledge required." An acquainance with the dogmas of any particular system of medicine would not prevent a candidate from being admitted, but an avowed adherence to some one of them would prove a bar to his admission, and we hope will always continue to do so.

The resolution of Mr. Cameron, however, to which we referred in our last issue, and which is so admirable an illustration of the depths of ignorance to which the "practical politician" descends when he permits his statesmanship to venture beyond the arrangement of primaries and the management of conventions, points in another direction. It must be humiliating to the petitioner of a "pathy" to find that in the minds even of their advocates no distinction is made between them and the rest of the army of "pathies"—eclectics, Thomsonians, mesmerists, botanists, and all the other quacks who have succeeded here and there throughout the country in obtaining legislative recognition and in establishing "colleges." Mr. Cameron has doubtless no serious idea that his resolution will prevail; but if he hoped by it to secure the votes of these irregular practitioners for himself or his candidates, he should have been more select in his bestowal of privileges. At any rate, each of the "exclusive schools" will be able to excuse its failure, as Falstaff did his many defects: "Company, villanous company, hath been the spoil of me!"

SUMMER SANITATION.

IT would be well if all our other large cities should imitate the example of New York. The Board of Health, which has powers granted to few such municipal bodies by our legislators, appoints each year fifty physicians as Sanitary Inspectors, who for five weeks in July and August inspect the tenement houses of the city, report the grossest nuisances to be abated, prescribe especially for the sick children of the poor, and distribute tickets to the excursions given by the various charitable associations.

It would be well too in the interest of the sick children, and especially of sick infants, if the example of the Philadelphia Board of Health were

followed. At their instance the Philadelphia Obstetrical Society formulated a few simple rules for the management of sick infants in hot weather. These suggestions were printed in the newspapers and in cheap pamphlet form, and are distributed every summer in drug stores and through physicians gratuitously to all who would take them. Many a life we doubt not has been saved by their observance; and many a mother has got her first and much needed lesson in hot weather hygiene from these admirable rules.

We note also with pleasure the sanitary work of the Citizens' Sanitary Society of Brooklyn, and the New York Association for the Improvement of the Condition of the Poor. The recommendations they have made for the removal of sanitary evils are admirable, and the defects and abuses they have revealed have been surprising. Most surprising of all is the statement made by Mr. George C. Booth at the recent sanitary meeting at Greenwood Lake, that "the wealthiest and most prominent church corporation" in New York City has scores of tenement houses which are in the foul condition he describes so vividly, and that the church corporation exacted last May ten and fifteen per cent. increase of rent under pain of eviction, instead of spending some thousands out of its millions in remedying such monstrous evils.

SOCIETY PROCEEDINGS.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, June 7, 1882.

W. S. W. RUSCHENBERGER, M.D., PRESIDENT, IN THE CHAIR.

DR. JOHN M. KEATING, read a paper on *The Presence of the Micrococcus in the Blood of Malignant Measles; its Importance in Treatment.*

He said: I propose to present for your consideration this evening the report of a recent epidemic in the Children's Asylum of the Philadelphia Hospital. The ward in which the disease first showed itself contained children between the ages of two and three years; some of them had been deserted by their mothers, and others had been placed there temporarily whilst the mothers were employed in duties about the establishment. For the most part, these children presented a fair appearance of health; they were seemingly well nourished, of good development, though probably they would have been classed as "strumous," if their large features and tendency to glandular enlargements and eczematous eruptions had received careful attention. Together with all children of this class living in asylums, they certainly presented an open field for the production of those complications that are usually such fatal attendants upon measles.

Dr. Formad examined almost daily the blood of each little patient, and together we noted the presence of micrococci in the malignant cases, and their absence in those of mild type. We entered this study with no preconceived views; the rapidity with which this exceedingly fatal epidemic came upon us, necessitated careful study in order to attempt, if possible, to discover its cause.

CASE I.—J. F., aged two years and three months, was taken sick April 12, 1882. There had been no cases of well-defined measles in the house at that time, although it was epidemic in the city. The child had a sore throat, some cough, with fever. The throat eruption was punctated and well marked. The child died in convulsions April 15, 1882.

Autopsy.—An ante-mortem (chicken-fat) clot was found in the right heart, extending into the pulmonary artery. There was great systemic venous engorgement. A decided staining was noticed upon the cadaver, especially about the temple, which caused the remark that the disease was probably one of the exanthemata. This child had been placed upon carbonate of ammonium, quinia, and digitalis; had had bromide of potassium, hot baths, and stimulants in small quantities.

CASE II.—M. J., aged three years and five months, was taken sick April 9, 1882. A slight eruption on the face was noted April 11, 1882; the next day the eruption was complete over the entire body. In this case the eruption was irregular, was decidedly that of measles, but of malignant type. Still she did well until April 17, 1882, when suddenly the breathing became harsh, and pulse was rapid. At 4.30 P.M. had an attack of suffocation with rapid, feeble pulse. There was general venous engorgement, the face and lips were purple; pulse growing more rapid. Hot baths with mustard and frictions were used, and carbonate of ammonium and digitalis given. It was suggested to bleed in this case, but the evidences of heart clot were so marked, and the child had exhibited so many evidences of malignancy at the onset, that baths were used instead. April 11, 1882, at 3 A.M. she was still growing worse despite treatment, and shortly after had a violent convulsion and died.

There was no autopsy permitted.

CASE III.—A. G., æt. sixteen months. Took sick April 15, 1882.

April 16th had prodromes of measles. The temperature and pulse ran as follows:

16th.— P.M. 102°.
17th.—A.M. 101°; P.M. 103°; pulse 180.
18th.—A.M. 102°; P.M. 103°; pulse 180.
19th.—A.M. 101°; P.M. 102°; pulse 160.
20th.—A.M. 101°; P.M. 102°; pulse 148.
21st.—A.M. 100°; P.M. 100°; pulse 180.

In this case no defined eruption appeared on the body, although there was a decided papular eruption on the uvula and anterior half arches of the throat. Whilst showing this case to the class we noted streaks of grayish membrane in the fauces. The child had decided bronchitis, and the voice showed that the laryngeal mucous membrane was also affected. This child was not at that time very ill. There was no question in our minds at the time that it was affected severely by the measles poison; that it was, in fact, another malignant case. It was carefully watched, the nourishment regularly given with quinia and iron daily, as was customary in all the cases.

On the 21st, the breathing was noted as peculiar (I shall describe it hereafter). An emetic was ordered of ipecac, fearing an accumulation of mucus from the bronchitis present, and also carbonate of ammonium and digitalis and hot foot baths were given. The child's intelligence seemed good, and it will be noted that the temperature was but 100°, while the pulse was 180.

At 8 P.M. a second attack of suffocation occurred, and the child died in violent convulsions. The venous engorgement was very marked.

Autopsy.—Ten hours after death. *Heart:* left side and valves all normal. *Right side:* a large ante-

mortem clot filling the cavity of the right ventricle, and extending into the auricle; a clot was also seen in the pulmonary artery. *Lungs:* left, normal. *Right lung:* at the base of this lung the lesions of pulmonary congestion were seen, especially where the lung approximates the diaphragm. *Intestines:* slightly congested and hyperæmic. *Mesenteric glands:* enlarged and infiltrated by simple congestion. *Kidneys:* normal. *Blood:* taken from the heart cavity as soon as it was opened and examined, showed micrococci in the liquor sanguinis and *in the white blood corpuscles.*

CASE IV.—J. F. McH., æt. 23 months. This child had a typical attack of measles. The eruption was rapidly disappearing, and desquamation had set in. April 21st the bronchitis seemed to be aggravated, the respirations were 36, and expirations seemed unusually prolonged. The breathing was noisy; the heart's action was rapid, pulse 148. Suddenly, in the evening, an attack of suffocation came on, which was relieved by an inhalation of nitrite of amyl. On the morning of April 22d the heart was beating 168; the venous engorgement was very marked, the jugular veins standing out like whip cords, the respirations were from 36 to 40, but the temperature was 99°. I saw the child at this time, and noted the gasping breathing, the feeble pulse, and the tumultuous action of the heart. There seemed to be capillary spasm, judging from the gasping breath, the imploring look which the child gave to all its attendants, and we at once gave an inhalation of *nitrite of amyl.* In a few moments it seemed relieved. The administration of carbonate of ammonium, digitalis, hot baths, etc., was rigidly adhered to. The child seemed confortable until 4.30 P.M., when it had another attack of milder character, though longer duration, and in it finally died of convulsions. It was observed, says Dr. Campbell in his notes, that the convulsion was not as severe as in the previous cases.

Autopsy, twenty hours after death.—Eruption not well marked. *Heart:* right ventricle contained a small ante-mortem clot. This clot was in the cavity of the ventricle, and did not involve the valves, either tricuspid or pulmonary. The left side of the heart was normal in every respect; contained no clot. *Lungs:* normal, with the exception of hypostatic congestion at both bases. The pulmonary and costal pleuræ of the left side were inflamed and adherent in some places. *Trachea:* inflamed and containing a tenacious mucous secretion. *Larynx:* inflamed and hyperæmic. *Liver:* normal. *Intestines:* Peyer's patches and the solitary and agminated glands infiltrated and hyperæmic. *Mesenteric Glands:* enlarged and infiltrated, they were about the size of a grain of corn. *Kidneys:* normal. *Spleen:* amyloid bodies enlarged until they presented almost the appearance seen in a tubercular spleen. *Blood:* taken from heart as soon as punctured. Micrococci were found in the liquor sanguinis and *in the white blood corpuscles, and they were mobile. In the corpuscles they were seen in great numbers in active movement of a vibratory or whirling character, and they appeared to have devoured the white cells.* No bacilli were seen.

CASE V.—J. McG., æt. 26 months. Ordinary case of measles. The eruption had disappeared on or before April 15th. *April 22d.*—Child restless; marked bronchitis; cough paroxysmal upon waking, especially after excitement; mucous râles coarse, and fine throughout lungs posteriorly; throat congested, and saliva at times tinged with blood. At this date the breathing was noted as noisy. Pulse 144, respiration 32, temperature 100°.

23d.—Mucous râles becoming general, and not limited to areas as heretofore; pulse 152; respirations 34; temperature 101°. In addition to the tonic and stimulating treatment, mustard poultices were applied to thorax, and hot baths frequently given. Carbonate of ammonium was given now, gr. ij, ever hour, and bisulphate of quinia by suppository, gr. ij, every three hours. In addition to this the child was given, as were all the others, milk and lime-water, beef tea, etc., at frequent intervals. In this case the frequent administration of small doses of syr. ipecac. was resorted to in order to relieve the secretion, which was abundant and tenacious.

23d.—Evening. Pulse was rapid, 160 to 170; temperature 102½°; breathing becoming labored and gasping (fish-like); venous stasis was becoming more marked. Increased the whiskey to about one ounce a day. The attacks of suffocation continued paroxysmally, the jugular veins stood out like cords at times. *Nitrite of amyl* gave immediate relief, but relapse soon followed; it was always followed by free emesis, which seemed to be in itself beneficial. About midnight a severe paroxysm came on, and with it a convulsion in which the child died. It had been suspected for some time that a heart clot was present. After death the venous engorgement was even more marked than before. This little patient was the first case whose blood Dr. Formad examined during life. The view of the fluid was photographed; *micrococci were found in great abundance, acting especially on the white corpuscles.* The blood was examined very shortly before the child's death, when the symptoms of heart clot had been fairly established, and the case declared hopeless.

Unfortunately, no autopsy was permitted in this case.

CASE VI.—F. M., aged 2½ years. This case ran a course as did the others, and I will only occupy time with a description of the post-mortem appearances. Eruption well marked on mucous membrane of buccal cavity, not so on cutaneous surface. Upon laying thorax open, lungs found to be anæmic, as far as arterial circulation was concerned, but dammed up with venous blood. *Heart:* normal in size and weight.

Right side contained a clot extending along the pulmonary artery for some distance; it was chicken-fat in consistence. *Left side:* normal. *Spleen:* congested; weight, four ounces. *Intestines:* along the small intestine could be seen a few Peyer's patches inflamed, and well outlined against the comparatively normal gut. The mesenteric glands presented a very good example of enlargement and infiltration; they looked like so many peas scattered throughout the mesentery. *Liver:* normal. *Kidneys:* normal. *Brain:* not examined. *Blood:* taken from heart cavity as soon as it was open, showed micrococci in the liquor sanguinis and *in the white blood corpuscles in abundance;* they were not mobile. A number of zoöglœa masses were seen.

CASE VII.—C. M., aged two and a half years. The eruption in the throat of this child was very well marked. A few crescentic points appeared in the temples, and the case rapidly developed malignant symptoms.

April 21.—Slight grayish suspicious patches of membrane are seated in the throat. The child is hoarse and there is much bronchitis.

22d.—Pulse rapid; respiration 28; breathing irregular. There is great general venous stasis, the skin dark and mottled. Dr. Formad examined the blood microscopically, and found it full of micrococci. He took a specimen sample for photography. Prognosis very unfavorable, as the child has fluttering heart and gasping breathing. Hot baths had been used freely with no success, so also salicylic acid, which had been suggested early in the disease. After consultation with Dr. Formad, the account of which I incorporate in the

summary, it was concluded to give at once ʒij of whiskey, and repeat it every hour; milk was continued as the only other food.

24th.—Pulse, 144; temperature, 101°; respiration, 48. Circulation much improved. Venous engorgement relieved; breathing greatly improved. The child continued to improve during the day. At the end of the twenty-four hours it had taken six ounces of whiskey, and yet it showed no effects of alcoholism. At noon the pulse was 140; respiration, 36. 6 P.M. pulse, 132; respiration, 32. 11 P.M. pulse, 122; respiration, 26, and regular; breathing easy, though somewhat noisy, but not harsh.

25th.—A.M. temperature, 98°; pulse, 128; respiration, 26. P.M. temperature, 98°; pulse, 108; respiration, 24.

26th.—A.M. temperature, 98°; pulse, 96; respiration, 22. P.M. temperature, 98°; pulse, 104; respiration, 24. The respirations remained regular, and the child continued to improve. After the examination of the blood on April 30, owing to the relative increase of the white corpuscles, it was decided to give Fowler's solution of arsenic, gtt. ij, three times daily. The large doses of whiskey were kept up for three or four days, and gradually diminished.

I give Dr. Formad's reports, which he kindly wrote out for me, of the microscopic examination of the blood in the above case (examination made with a one-sixteenth immersion lens).

Examination April 22, 1882.—Blood full of micrococci (sphero-bacteria), affecting many of the white blood-corpuscles; also a large quantity of these fungi free and in various forms of grouping, mostly in zoöglœa masses. White blood-corpuscles are in increased quantity; precipitation of fibrine excessively marked under the glass.

24th.—Micrococci present, but in diminished quantity; white blood-corpuscles less affected; precipitation of fibrine less marked.

26th.—Micrococci very marked, yet principally in zoöglœa masses, and free in serum, but not affecting the white corpuscles, although the latter are in increased quantity; fibrine not noticeable.

30th.—Micrococci present; white blood-corpuscles still in excess, but not affected by micrococci. Red blood-corpuscles not readily forming rouleaux, having partly lost their biconcavity.

May 3.—Micrococci present in diminished quantity. White blood-corpuscles diminishing in quantity.

18th.—Still some few micrococci present; blood otherwise appears normal.

Case VIII.—J. W., æt. eight months. *May 13.* P. M. Eruption appeared on fifth day. The temperature ran as follows:

May 13.—P. M. 100⅗°. A fever mixture was given during the day. Quiniæ et ferri citratis, gr. ij, every three hours.

14th.—A. M. 101⅖°; P. M. 102⅗°.

15th.—A. M. 101°; P. M. 103⅖°.

16th.—A. M. 101⅖°; P. M. 104°.

17th.—A. M. 101°; P. M. 102⅗°.

18th.—A. M. 102°; P. M. 103⅖°. The eruption fading, but leaving a purple stain and mottled appearance of skin. Catarrhal pneumonia or collapse probably exists, as the bronchitis is very extensive, the *râles* numerous, and subcrepitant. The blood examined under the microscope *shows micrococci in the blood corpuscles, but none free in the field. They are seen in great numbers.*

19th.—A. M. 100°; P. M. 103°. For the past two hours the child has been very restless, the breathing rapid and labored, and also spasmodic. No membrane on tonsils or fauces. Heart's action very rapid, venous stasis marked especially in the jugular veins. Gave hot baths (says Dr. Campbell's notes), and covered him with blankets, with some relief. Increased the whiskey to ʒij every hour. In the evening gave an emetic. The child at night was breathing easier; friction sounds heard.

20th.—A. M. 103⅘°; P. M. 102°. At times the strangulation would seem imminent. The venous engorgement increased, and the child died in convulsions on the morning of the 21st. The post-mortem examination showed pneumonia and pleurisy with effusion.

21st.—A. M. 105°, death.

The following eight cases were all taken sick at once, and I shall simply give a general statement of them for the purpose of especially calling attention to the case of W. L.

J. J., aged four years; W. L., aged five years; E. C., aged three years, catarrhal bronchitis; W. W., aged three years; C. B., aged two years, catarrhal bronchitis; J. W., aged five years; J. D., aged five years; L. K., aged five years.

Of these *eight*, seven presented severe but nevertheless typical examples of measles, and their blood was carefully examined by Dr. Formad and found normal. The case of W. L., who was taken ill at the same time as the others, showed from the onset a malignant tendency, giving a record such as I have already described. Dr. Formad gave me the following as the result of the examination of the blood in this case, and I had frequent occasion of examining it with him myself. Let me say that as soon as the presence of micrococci was established, the child was placed upon ʒij doses of whiskey every hour. Quiniæ et ferri citratis in citric acid, gr. ij, every three hours, friction to the extremities, and warm baths, with milk and beef-tea.

April 22.—A few micrococci seen in the field.

26th.—Again noted.

30th.—Micrococci still present, white corpuscles increased and marked precipitation of fibrine. *None were noted as having penetrated the corpuscles;* those that were found were simply in the serum. This child recovered, though every indication gave a very unfavorable prognosis.

In presenting this detailed report I desire to call especial attention to the following points, viz., the microscopic examination of the blood and the constant association of *micrococci* with the general manifestation of malignancy (a condition already well known), and the gradual but positive amelioration of all bad symptoms by treatment which was directed to the micrococci as the *fons et origo* of trouble (this, I believe, for the first time exhibited).

It will be noted that the *post-mortem* examinations of these cases showed more or less simple pulmonary congestion, and at times simple enlargement of the glands, but usually so circumscribed as to preclude the possibility of its being the immediate, or even remote, cause of death. Again, the mode of death was peculiar; the fatal signs came on suddenly and with frightful intensity, the gasping breathing, the frantic efforts to obtain air (or really to aerate the blood), the imploring look, with consciousness not impaired, seemingly unduly acute, until the final convulsion or gradual cyanosis brought the end. The turgid veins, the occasional venous engorgement, the feeble pulse, and the fluttering heart pointed unmistakably to but one cause, the gradually forming right-sided heart-clot, and the *post-mortem* appearance, as these notes show, gave us a large, tough, chicken-fat clot, obstructing the venous circulation, firmly planted in the right heart and its tributaries. One of the earliest symptoms of this impending danger was undue rapidity of respiration. The child seemed to be doing well, its eruption irregular, probably incomplete, or dark and mottled, and in blotches, when attention would be called to the great

rapidity of respiration, with a peculiar gasping inspiration, fish-like in character. The other fatal symptoms would follow rapidly, and within twelve hours the child, despite carbonate of ammonium, warm baths, digitalis, etc., would die of heart-clot. What caused this?

In a short paper which appeared in the *American Journal of the Medical Sciences* for January, 1882, I gave the experience of a number of cases of diphtheria, scarlet fever, and measles, and then attributed the condition to an increase of fibrine due to the rapid tissue-changes and the malignancy of the type of disease, and urged the importance of pushing an alkaline treatment from the start.

The microscope has shown here that something more is associated with this condition.

The moment that symptoms of malignancy, viz., dark eruptions, illy-defined crescents, delayed and imperfect appearance of the eruption, with feeble circulation, high temperature, and pharyngeal false membrane appear, the examination of the blood showed *micrococci* in abundance in the field. They do not simply lie as impediments to the free passage of blood, though they most undoubtedly do this, and obstruct its passage in capillaries, but they surround the corpuscles, they enter the white corpuscles, and there develop with surprising rapidity, and finally cause some of them to rupture, and their contents will cover the field. Still, if they alone clogged the circulation in the capillaries, caused stasis in the lung, and thereby provoked an accumulation in the already enfeebled right heart, with blood having a tendency to coagulate, the cause of heart-clot alone would seem explained.

We find that they develop with activity when the blood current is retarded, hence we find them spread throughout the heart-clot itself, possibly at times having been here arrested by the obstruction to the flow caused by the lung congestion, known as a frequent complication of these cases, and finally aiding, by a mechanical cause alone, the deposition of fibrine that forms the clot. They do more; they act upon the white blood corpuscles, destroy them in all probability, or, at least, as one of the cases proved conclusively, prevent their change to red corpuscles, and thus the oxygen carriers being either destroyed or reduced in numbers with none to replace them, the tissues retain their detritus for want of carriers to relieve them, and another factor is added to increase mortality.

Granted, then, that the appearance of *micrococci* is coincident with symptoms of malignancy, we must assert that, whether their association be *post hoc* or *propter hoc*, they must have common cause; our treatment receives an impetus in a new direction.

I asked Dr. Formad what, in his experience, most readily checked the development of *micrococci* in his culture solutions obtained from erysipelas, diphtheria, etc.; he answered *alcohol*. Dr. Campbell at once withdrew carbonate of ammonium and digitalis from the treatment for the future, and gave whiskey. Five children had already died with the symptoms I have just described, and the sixth was exhibiting all the malignant symptoms, together with those which experience had taught us came from commencing heart-clot. The child had rapid gasping breathing, was becoming cyanosed, its heart was tumultuous, and the rapid pulse was growing weaker. The instructions were to give *three ounces of whiskey within the next twelve hours*, in frequent and small doses. The treatment was carefully carried out, and the child was saved. In this child *micrococci* were found in abundance in the blood, but none had penetrated the corpuscles, and for a long time the preponderance of white blood corpuscles was noted, which continued until gradually the blood became normal under the use of *arsenic*.

Again, let me illustrate another point. In one ward there were six cases at the height of eruption, I carefully examined, with Drs. Campbell and Markoe, each case. One case was found to be of a malignant type. The child's right cheek was hardened and inflamed, and the mucous membrane showed that glistening surface so manifest in cancrum oris. The breath was fetid; there were cerebral symptoms; and a grayish exudation lined the fauces. We wished to test the microscope; so, without reference to any particular case, we requested Dr. Formad to examine the blood of all. In five the blood showed no *micrococci;* in one a large mass appeared in the field upon the first examination, and this one was the malignant case. This child was placed at once upon large doses of whiskey, and it was also given, in tonic doses, quiniæ et ferri citratis and citric acid.

The *vegetable* acids, especially acetic acid, have also this remarkable effect of checking the development of micrococci in culture solutions; but the mineral acids, also carbolic acid, it is said, have no such action.

The *bichloride of mercury* also possesses this quality to a very marked degree.

Now let me, for a moment, review this subject in the light of treatment, which to us is certainly of greatest importance. We may look at present upon the *micrococcus* as associated with the malignant symptoms of all complications known as "blood-poisoning." It is found in erysipelas, in puerperal septicæmia, in diphtheria, and in malignant measles. Experience has already taught us that alcohol, the vegetable acids, calomel, or corrosive sublimate, are the drugs *per se* in septicæmia.

The action of alcohol and calomel is too well authenticated in puerperal septicæmia to doubt their efficacy.

We know of late how surprising a result will often attend the use of alcohol and *corrosive sublimate* in malignant diphtheria, and also the value of vegetable acids, especially lemon-juice and claret, in this dreaded disease.

My cases simply illustrate one part of the subject. In this recital I do not allude to the other death-producing complications which are so universal. Children with measles will die of cerebral complications, of pneumonia, of enteritis, and entero-colitis—with these we have nothing to do at present. Their treatment will, of course, depend upon the lesions—quinia, opium, hot baths, poultices will all take part.

I have simply brought forward the subject of "blood-poisoning" for your consideration, and as these remarks are based upon the careful study of but one epidemic, they cannot be submitted as conclusive, but simply as illustrative of what may, at some future time, be accomplished by studying, not merely the bacteria anatomically and physiologically, but by experimentation with bactericides as antidotal in their action, in diseases they may cause or complicate.

The conclusions which seem warranted by the statements of this paper, and by observations made in other cases in the Hospital, are as follows:

The *micrococcus* is found in the contents of pustules and vesicles, and also in the blood taken from the measles-papule in ordinarily mild cases, without its being present in the blood taken from the punctured finger. In severe cases, called malignant in this paper, owing to the rapid appearance of morbid symptoms, the blood shows early in the attack numerous patches of micrococcus in the field.

In cases of rapid sthenic disease with high temperature and great tissue change, the evidences of large quantities of fibrine with a tendency to coagulation are manifest. The rapid production of micrococci soon gives the mechanical impediment, and if stasis takes

place from any other obstruction to the circulation, clots rapidly form.

The non-appearance of clots in malignant fevers, attended with fluid blood, such as low forms of typhus, diphtheria, etc., is simply due to the fact that rapid tissue changes have resulted in decomposition, instead of into fibrine-forming substances—no fibrine is formed, hence no clots—but the micrococci are present all the same. These cases are held by some to be the malignant ones, but I think the *foudroyante* character of the others, just mentioned, entitle them to be placed in the same category.

But the micrococcus, if left unheeded, may attack the white corpuscle, as distinctly seen under the microscope, and destroy its contents. The red cells also change in appearance, and finally probably become, to all intents and purposes, useless in the economy. When such a condition is seen by the microscope and found extensive, a fatal prognosis can be given, despite the most active treatment.

In cases where the white blood-cells are as yet unaffected, treatment, when active, will be followed by good results, provided the other complications, as visceral inflammation, etc., are not in themselves excessive.

Alcohol (whiskey in our cases) seems in some way, when given in large amounts, to check the progress of the marauders, to arrest the process of destruction, and, if needful, can be associated with quinia and iron in small repeated doses, digitalis perhaps, and frictions, baths, and poultices, etc. As we have seen, the symptoms presented are contemporary with the changes going on within the blood; they may, *in lieu* of a careful microscopic examination of the blood, be taken as a gauge for treatment; knowing what can and will take place, early active treatment will give the patient some chance for the future.

CORRESPONDENCE.

LETTER FROM BERLIN.

The "Cultures" in the Study of the Acute Infections—The Prevention of Tuberculosis.

HISTORIANS teach us that trivial accidents sometimes determine the fate of empires. No less an influence do they exert at times upon the progress of a science. Mr. Darwin näively tells us himself that he was put upon his train of thought by the perusal of the work of Malthus upon population. What the apple was to Newton, the potato was to Koch. For just as the accidental observation of the fall of an apple suggested to Newton the law of gravitation, the accidental observation of the mould upon the surface of a potato gave to Koch the clue which led to the discovery of the parasite of tuberculosis. But, as has often been observed, the accident must happen to the right person to be productive of the right result. Hundreds of men had read the work of Malthus, thousands had seen an apple fall, or had noticed, perhaps only with feelings of disgust, the decay, the rot, as it is commonly called, upon the surface of a potato, but it occurred to only these three men—posterity will put their names together—to evolve from these simple observations the greatest discoveries of modern times.

The first step in the elucidation of the cause of the acute infections, tuberculosis, and many other diseases due to micro-organisms, rested upon the substitution of a solid for a fluid culture substance; and the first solid substance used was the surface of a divided potato. Koch saw that the surface of a potato exposed to the air soon became covered with mould, which under examination by the microscope proved to be parasites and fungi of many different kinds. It occurred to him that he might secure the isolation of these different forms by grafting them individually upon fresh potatoes, and the result justified his expectations. Hereupon, he proceeded to graft the specific products of disease, and thus by successive experiments to isolate the pathogenic organisms. He soon found that all pathogenic organisms would not grow upon the potato. The parasite of milzbrand, for instance, grows luxuriantly upon the potato, but the parasite of tuberculosis does not grow upon it at all; so that to secure the isolation of these germs he was compelled to devise other solid culture substances, namely, of gelatine and of blood. But the potato was the first, and is still the best sort for certain forms of growth. To quote his own language in a publication long ago: "*Doch das Princip war gefunden und es kam nur darauf an, der Sache eine für alle Fälle passende Gestalt zu geben*" (which might read, very literally translated: Yet the principle was found, and it became merely a matter of securing a form suitable to all cases).

Up to the time of Koch, all experiments with pathogenic micro-organisms were made with culture fluids, and the impossibility of purification of the fluids used, with the implied impossibility of isolating germs of an individual kind, rendered impotent every kind of experimentation. The different, often opposite and contradictory, results arrived at by equally competent observers soon surrounded the whole subject with doubt, even ridicule, and justly brought about that state of scepticism regarding the germ theory so universally prevalent in our times.

The simple substitution of a solid for a fluid culture substance has completely changed the whole aspect of the subject, by giving at once to the study of micro-organisms a degree of scientific accuracy, which is surpassed in no other field of medicine.

I put this fact in the foreground, because, as it seems to me, it stamps the genius of the discoverer more than anything else. Given a field which is clear of weeds and it is possible to grow the grain which has been sowed. And thus it is grown here, again and again, by successive cultivations, the same seeds always producing the same fruit, if I may use so coarse a term, with the same degree of certainty as in the microscopic world. If successive observations show, without exception, the same picture under the microscope, and if successive inoculations show, without exceptions, the same results in the bodies of animals, what other inference is possible than that the micro-organisms are the cause of the disease? In the case of tuberculosis, as in that of milzbrand, septicæmia, etc., there is no question, whatever, of any chemical effects. For the bacilli and micrococci of these diseases are absolutely isolated by successive generations, sometimes to the ninetieth already, in cultured fluids, before their introduction, and they themselves, or their progeny, are universally found after the natural or artificial death of the animal in every product of the disease.

But first let us do justice to the potato. The method of its present use deserves a full description, not only because it was the first solid culture substance, but, as has been said, because for some organisms it is still the best. Moreover, the experiment can be easily made by any one, and the knowledge which the simple observation imparts will do more than words to dissipate the doubts concerning the possibility of the isolation of germs in the mind of the most incredulous.

It will be remembered that the cardinal fact to be proven is to secure the absolute isolation of individual species, and it is claimed that this isolation can be demonstrated even to the naked eye. Hence for demonstrative purposes the potato gives the most conclusive evidence. It will be readily understood that the

potato must be freed of all germs before the experiment begins, must be completely, or as nearly so as may be, sterilized at the start, and the steps by which this sterilization is reached, though tedious, perhaps, in description, will give, if patiently followed out, a good idea of the methods of work on a finer scale, as with the sterilized gelatine and blood-serum preparations.

In the first place, only such potatoes are used as are unfit for culinary purpose. A good, edible, mealy potato would break open under heat, and is hence rejected. A rather watery potato, with a sound skin, is the one selected. One of the attendants understands exactly now what kind of potato to buy. Then the outside is washed perfectly clean with a brush, a small hair-brush, under a stream of water from the hydrant. Every dark spot or surface is now scraped off with a knife, and is followed into the interior until entirely cut away. Should too many such spots occur, or should their exsection involve too much mutilation of the potato, it is cast away. The accepted potato is next scrubbed again with the brush, and is now dropped with its companions, usually to the number of six or eight, in a large glass vessel containing a solution of corrosive sublimate one part to the thousand, to which a few drops of hydrochloric acid have been added to prevent the decomposition of the fluid. Here it remains for one hour, after which it is placed immediately, that is without washing off the sublimate solution which adheres to it, in a steamer, and steamed thoroughly for half an hour. Now the potato is pretty thoroughly sterilized and is ready to officiate as a culture substance for the graft. But every thing that is to touch the potato must be sterilized in turn. First, the knives which are to cut it, one for each potato, and the glass vessels which are to receive it, one for two or three potatoes. Common shoe knives are employed, the blade of each being brought to a glow over a Bunsen's jet. The glass vessels are washed out with the sublimate solution, and covered top and bottom, that is, bowl and cover, with a large piece of moistened blotting-paper, which by reason of its moisture sticks. Now then the hands of the operator are washed with the sublimate solution. Each potato is now halved with the blade of the knife, which has meanwhile cooled down somewhat, care being taken that the hands at no time come in contact with the divided surface. Thereupon a platinum wire attached to a glass rod is also heated to redness, *ausgeglüht* is the expression, and the graft is picked up upon its point, put upon the free surface of the potato and spread over it, with a small recently *ausgeglüht* knife, just as butter is spread upon bread, or as a gardener with his rake spreads the soil over the newly sown seed. The graft is taken from a potato of former experimentation, or from a test tube containing the germ growing in a gelatine or blood culture substance, being selected from the place which shows to the naked eye the thriftiest and purest growth. The original micrococci or bacteria, independently of pathogenic organisms, are obtained by simply exposing a fresh potato to the air, when after a day or two its surface is found covered with moulds or germs of various kinds. Thus after half a dozen experiments, each potato is made to grow a special or distinct mould, without admixture with the others. Of course they soon, in their luxuriant growth, become visible to the naked eye. Moreover, some are white, some are green, some are scarlet; some look dry and mealy; some accumulate in drops, or fluidify the surface of the potato; some are arranged in rings, and so on, each showing its own peculiarity of form and color. If at any time any admixture occurs, both are seen together, and what is called a *Verunreinigung*, an impurification, has evidently taken place. The pure isolated parasite is then grafted anew upon a new potato. At any time, of course, specimens can be removed and studied under the microscope, when individual peculiarities soon come to be distinctly recognized. So potatoes are shown with a line across the free surface growing a scarlet mould upon one side of the line, and a green or white mould upon the other. Or a skilful experimenter may quarter his surface, and grow four different varieties upon it. Thus, too, are grafted upon the potato the yeast fungus, the fungus which colors milk blue in perfect purity and isolation. But the most beautiful and showy of all is the deep-scarlet *micrococcus prodigiosus*. This is the fungus which grows upon the host in damp churches and gives rise to the miracle of the sweating blood. So the merest neophyte may see at a glance whether his graft has been a success or not, and may soon satisfy himself of his ability to isolate an individual species, or to propagate it *ad infinitum*. The potatoes, though kept in the moist chamber formed by the glass vessels, soon become permeated by the parasites and fluidify in the process ordinarily called decomposition. So care must be taken to keep up a fresh supply, and these experiments are repeated every two or three days. To avoid the loss of any species, strips are cut off from time to time, dried, and preserved in bottles, whence they may be extracted at any time for new grafts. The exposure of the free surface of a sterilized potato acquaints the observer with the particular kind of germs which abound in the locality of the experiment. But the analysis of air is now made in a much more satisfactory way, and with other culture substances than the potato. The truth is, the potato is used now more for demonstrative purposes, for as soon as it was found that many pathogenic organisms would not grow well, or at all, upon the potato, search was made for other soil.

The first substitute among the *feste Nährboden* which Dr. Koch was led to employ was a mixture of gelatine with extract of beef. It would take up too much space to go over all the processes employed to secure the sterilization, the clarification, and the coagulation of the nutrient gelatine mixture, and it is especially unnecessary, inasmuch as the details have been published in Dr. Koch's first communication from the Health Office. It may suffice to say that all these objects have been obtained, and that the place bristles with tubes of gelatine and of blood, which, by the most ingenious procedures, are also brought to look like amber, and to have the consistence of gelatine when cold. These culture substances are inoculated by means of the platinum wire, some with septicæmia of various kinds, some with tuberculosis, some with milzbrand, all visible as opacities in the clear fluid, as visible as an opacity upon the cornea, or as summer clouds in a clear sky, all growing luxuriantly, and each ready at any time for examination under the microscope, or for inoculation of animals, which is practised every day. Some of these preparations are over a year old, and are, of course, just as virulent as when first introduced. Three white mice, one large rabbit, and one guinea pig were inoculated to-day, each with a different bacillus or micrococcus, and as fast as they succumb, often before natural death, each is examined for the well-known effects of the disease. Every day two or three animals are brought in and examined for tuberculosis. Some have died spontaneously of the disease when they show just the lesions we see in man; some have died quickly as the result of the injection of large quantities of tuberculous virus, *i. e.*, bacilli, when they show the lungs compressed, and atelectatic from pleuritic effusion, the result of tubercular peritonitis; some, after longer time, as the result of the injection of smaller quantities, showing the typical picture in the lungs of acute miliary tuberculosis. Mice are inoculated at the root of the tail on its dorsal surface, rabbits on the inner surface of the ear, and guinea pigs on the

side of the abdomen. In each case a small incision is made, a little skin pocket is formed by a blunt instrument, and the parasites extracted from the test-tubes with an *ausgeglühter* platinum wire, and introduced into the pocket. In experiments upon rabbits with tuberculosis, a vein of the ear is dissected down upon, incised, and penetrated with the needle of an *ausgeglühter* hypodermic syringe containing the bacilli, diluted with sterilized gelatine or water, sterilized by boiling. Every instrument used, that can be, is first heated to redness, and allowed to cool, and instruments that can not be heated to redness are put into an iron box, with a thermometer sticking out from its top, and then subjected to a sterilizing degree of heat. The culture substances, gelatine and blood, are boiled every day for a number of successive days, as long as any new opacities indicate the existence of germs or spores, before the specific bacillus or micrococcus is introduced. If at any time thereafter a microscopic examination shows the coexistence of other germs than that introduced, the specimen is thrown away as *verunreinigt*, and a new one is prepared. Here there is a laboratory filled with the quintessence of the most malignant of known diseases, any one of which can be imparted to an animal with absolute certainty, with a degree of rapidity, skill, and accuracy which would sound like a legend to the uninitiated.

So far, I have said nothing of the color tests. But this is a chapter by itself for a later date. I may say here now, however, of another part of this immense subject, that Dr. Koch does not at all believe in the practicability of the inoculation of a reduced virus in the prevention of the disease. He thinks that such experiments do more harm than good by spreading the disease, and that all that is necessary is to prevent the dissemination of the sputum which chiefly conveys the disease; for the cases of ingestion of the bacilli in meat and milk, though they do undoubtedly occur, are comparatively very rare. In the cases of bacillar meningitis which he has examined, he has always been able to find caseous bronchial or cervical glands, showing that the ingress of the bacilli was nevertheless through the lungs. Not that tuberculosis in any way implies the pre-existence of caseation. He produces it every day without caseation by injecting it directly into the blood. And even in the cases where the bacilli have been injected into the abdominal cavity, the tuberculosis of the peritoneum which followed was not preceded by any caseation of the peritoneal glands at the point of injection, or of the mesenteric glands remote from it. Caseation, when it occurs, is only an effect of tuberculosis. The only possible cause of the disease is the bacillus tuberculosis, and as this bacillus for the most part disseminates itself in the sputum, it will only be necessary to destroy the sputum to check, if not arrest, the spread of the disease.

But some one might say, Budd said this fifteen years ago. So he did; but what impression did it make? There was no proof. So the detractors of Darwin say both Goethe and Lamarck advocated the theory of descent many years before he lived. So they did; but their views were regarded as visionary until Mr. Darwin showed that the variation of species must be true, because of the struggle of numbers, and the survival of the forms best adapted to surrounding media. So the proof of the poison in the sputum is now at hand, and so soon as the knowledge of it filters down through the profession to the masses of the people, the disease will have had its day.

The promotion came to-day. In the papers it reads that *der Kaiser haben allergnädigst geruht*, etc., to promote *Regierungsrath* Dr. Robert Koch to *Geheimrath*, the grade which is just above it. J. T. W.

BERLIN, June 27, 1882.

REUNION OF DIVIDED NERVES.

To the Editor of THE MEDICAL NEWS.

SIR: In a report of the proceedings of the South Carolina State Medical Association, April 25, 1882, the President, Dr. F. L. Parker, delivered the annual address, and chose for his subject "Primary and Secondary Reunion of Divided Nerves by Suture." Dr. Parker cites cases to show that, though the operation was performed several months after injury and use of electricity, nerve power was restored.

With due respect for Dr. Parker's observations, and not in a spirit of criticism, but rather of inquiry, I would call attention to an article in THE MEDICAL NEWS of February 11, 1882, on "Nervous Degeneration, and Theory of Sir Charles Bell," by Dr. Dalton, in regard to change of structure of a nerve, after it has been divided. In relation to this subject there are two points worthy of investigation.

1. Is Sir Charles Bell's theory the true mode of repair of divided nerve?

2. In suture of divided ends of nerves, do the ends unite, as it were, by first intention, and restore function, or is it probable that, though the nerve may unite by suture, the function is restored only by cicatricial tissue and degeneration and regeneration of nerve below the point of section?

Allow me to narrate a case in point. Harry E., aged thirty-five, blacksmith, while working in shop on October 26, 1880, accidentally received the point of a heated iron rod in the popliteal region, a few inches from insertion of biceps, severing the external popliteal nerve—so inferred from location of wound and results following, as paralysis of muscles supplied by the distribution of this nerve, and loss of both sensation and motion.

In consultation with other physicians, little encouragement was given as to the limb being as useful as before the accident. In walking, the patient had to keep the foot flexed with a strap for several months after injury. In May, 1881, sensation and motion was noticed in the paralyzed muscles, and since then improvement has steadily taken place, the patient being now almost fully recovered.

To give an idea of the degree of paralysis, particularly of sensation, I will state that, in December, 1880, a few months after injury, the patient, while reading, without knowing, held the great toe of the injured limb to a red-hot stove until severely burned, without any manifestation of pain.

Since treating this case, I have read the article by Dr. Dalton on Bell's theory. That is, when a nerve is divided, either motor or sensor, the function was lost, but not permanently, as the ends of the nerve reunite by cicatricial tissue, in which are found new connecting fibres of new formation. The degeneration of the divided nerve is below the point of section, and extends through its whole ramifications; and when the nerve function is restored, it is by a true process of regeneration, that is, the growth of new fibres throughout the separated portion of the nerve.

From the fact that there was no treatment other than that directed to the healing of the wound in the preceding case, its history favors Bell's theory as being the correct one, and I incline to think it is the true mode of repair.

THAD. DONOHUE, M.D.

MEMPHIS, TENN., July 5, 1882.

WHO FIRST OBSERVED DESQUAMATION OF VASCULAR ENDOTHELIUM?

To the Editor of THE MEDICAL NEWS.

DEAR SIR: My attention was lately drawn to a letter in your issue for June 17, 1882, which struck me as a

curious medley of self-contradictions, misstatements of fact, and leaps at conclusions.

In one of a course of ten lectures upon the *Histology of Inflammation*, published in abstract in THE NEWS, May 20, 1882, while speaking of the normal histology of the bloodvessels, I particularly directed attention to one of the physiological functions, which more than five years ago I claimed for the endothelial cells which line the inner surface of the bloodvessels, viz., that of *desquamation* and the *formation of white blood-corpuscles.*

These views and the observations upon which they were based were first *expressed* in a Warren Triennial Prize Essay, January, 1877. They were first publicly advanced June, 1878, in a lecture on *Reparatory Inflammation in Arteries after Ligature, Acupressure, and Torsion*, delivered at Washington. They were first *printed* in April, 1879, in *Smithsonian Miscellaneous Collections, No. 321.* They were again printed in the American translation of Cornil and Ranvier's *Pathological Histology*, January, 1880.

Dr. Wendt, the writer of the letter referred to, says that he announced similar "views as originating from personal observations," in July, 1880, which were again somewhat amplified in Satterthwaite's *Manual of Normal Histology*, 1881. He contradicts this statement, however, in another paragraph, using the words "I never claimed that I actually observed any such process" (*i. e.*, desquamation of vesicular endothelial cells). In the last paragraph of his letter he does not hesitate to admit the rather *theoretical* nature of the reasoning upon which is based his belief in an endothelial desquamation within the bloodvessels.

An examination of his papers, as above cited, shows that Dr. Wendt very dogmatically asserted a normal desquamation of the vascular endothelium, and making a bold leap from that pure assumption, landed upon the conclusion that broken degenerated pieces of a desquamated endothelial cell give rise to the corpuscles of the blood—an assumption which was admitted (*loc. cit.*) to be "insufficiently substantiated by known facts," yet which to his mind appeared to need no basis other than an observed desquamation of the endothelium from the serous surface of a frog's mesentery under the stimulus of inflammatory irritation.

In the letter above mentioned Dr. Wendt states that he has very carefully studied the reports of my observations, during which I saw in the field of the microscope the endothelium actually *desquamate* from the walls of capillary *bloodvessels* in the mesentery of a living frog, and says, with the most surprising complacency, that he deems such pertinent observations "wholly superfluous," preferring to base his assumptions "insufficiently substantiated by facts" upon the supposed analogy between the peritoneal endothelium and that which lines the lumen of the bloodvessels. Such self-complacency appears to be equalled only by the extraordinry *sangfroid* with which he still claims priority for an original observation.

The author of the letter again places himself in conflict with the facts (wilfully, it appears, since he claims to have carefully studied my papers) when he avers in the last paragraph that I never intimated the possibility of the origin of white elements of the blood as due to a physiological desquamation of the lining endothelia of the vessels.

In the already cited lecture, delivered June, 1878, upon page 57, any one interested in learning the truth will find among the conclusions deduced, the following:

"21st. The endothelium which lines the inner surface of the arteries and capillaries may be considered the source of origin of some of the increased number of colorless elements of the blood in local inflammations. From this conclusion naturally issues the corollary that the endothelia in general may be considered as some of the possible physiological progenitors of the colorless elements of the blood. See Fig. 11."

Identical views were advanced more than five years ago in the prize essay already mentioned, and were last published in the translation of Cornil and Ranvier's *Pathology* also already referred to, the latter, seven months before Dr. Wendt's first paper. This last work, as I learn, is used as a text-book in the medical schools of the city in which Dr. Wendt resides.

Whether or not "Dr. Shakespeare's claim to priority lacks the substantiation of facts," I leave to those of your readers who are in search of truth.

Promising not to trouble you again upon this subject, I am, sir, Yours, very truly,

E. O. SHAKESPEARE.

1336 SPRUCE ST., PHILADELPHIA,
July 23, 1882

NEWS ITEMS.

KANSAS CITY.

(From our Special Correspondent.)

PURPURA HÆMORRHAGICA.—At the May meeting of the Jackson County Medical Society, Dr. Charles W. Adams presented a marked case of morbus maculosus, or the spotted disease of Werlhof, with a family history which would seem to establish clearly a hemorrhagic diathesis. The case presented was that of a schoolgirl, aged twelve years, and of American parentage. The inherited predisposition to hemorrhage is seen by tracing the family history. The girl's only brother, a strumous lad, suffers frequently with copious hemorrhages from the superficial and deep mucous membranes of the body, particularly from the nose. The mother, who menstruated freely at the age of eleven, has for years suffered with periodic hemorrhages from the bowel, and with internal hæmorrhoids. The father is one of those full-blooded, plethoric individuals, with a ruddy face, in which the capillary network of vessels are distinctly visible, and in whom slight cuts bleed with more than ordinary freedom. This varicose condition of the smaller vessels is not limited to the father, but is common to the whole family from the grandfather down, affecting to a greater or less extent the face and all the extremities. This tendency is particularly well marked in the mother.

The girl herself has never before suffered from bleeding, nor has she menstruated. The present attack began with mild prodromal symptoms of an undicided character. On April 3, 1882, the patient suffered with pain in the joints, particularly those of the lower extremities—the knees and ankles. The feet and ankles were very much swollen, and the overlying integument was covered with a bright red petechial exanthem. These spots of extravasated blood varied in size from a pin's head to that of a dime-piece. Besides these smaller petechiæ, there were occasional spots of dark brown discoloration (resembling the old-fashioned "liver marks," being of irregular form, and varying in size from one-half to two inches in diameter) upon different portions of the body. Temperature, 99.5° Fahr.

April 4.—No new petechiæ or blood spots; less swelling in feet and ankles; general condition improved; temperature 99° Fahr.; pulse moderately full and regular, 88.

5th.—Morning: Petechial eruption appeared on right hand and forearm; stomach very irritable, vomits frequently, can retain nothing; bowels very loose, passing large quantities of greenish mucus, with blood; temperature 99.6° Fahr.; pulse 94. Evening: Petechiæ appearing on the right arm, shoulder, and extending on down the back, with especially large ecchymoses about

the shoulder-blades; old petechiæ on foot and ankle changing to brownish discolorations, and disappearing; bloody stools; temperature 99.3° Fahr.; pulse 80.

6th.—Patient passed a restlsss night; temperature 100° Fahr.; pulse moderately full, 90; tongue dry and coated; no vomiting, and no pain in joints; old petechiæ fading on hand and arm; new purplish-red spots about the bridge of the nose and the forehead.

7th.—Temperature 99.5° Fahr.; pulse 95; passed a comfortable night and had a free movement of bowels.

In the morning a few petechiæ appeared on the chin, and by noon the whole chin, lower lip, anterior portion of the neck, and a large part of both cheeks were purplish-black, with irregular-shaped ecchymoses. The parts were painful, and also very much swollen, so much so that the countenance was scarcely recognizable. There were weakness and prostration, and for the next thirty-six hours the patient remained in this critical condition, without material change, except a slight rise in temperature.

9th.—Temperature 101° Fahr.; pulse feeble, 110. There were fresh petechiæ on arms and shoulders, and a slight extension of the eruption on the face. The ecchymosed tissues about the lower part of the face were very badly swollen. A large portion of the lower lip, including considerable of its mucous membrane and its integumentary covering, together with a large share of the underlying tissues, sloughed *en masse*, giving marked disfigurement. During the next forty-eight hours there was an amelioration of all the symptoms.

11th.—Considerable improvement in general health, appetite returning, and fever abated. Old petechiæ on hand, arm, and back disappeared.

12th.—An injection was given to relieve the bowel. After this was done, petechiæ reappeared on the hands and arms. Again, on the 15th, after an injection, petechiæ almost immediately reappeared upon the feet and ankles. This tendency of blood-spots to reappear after a passage from the bowel was for some time observed after each free movement. The case made a moderately rapid convalescence, with the exception of the lower lip, which was slow in healing, and upon which skin-grafting was practised.

In regard to the treatment, reliance was placed upon the oil of turpentine, it being given in ten-drop doses, in emulsion, every three hours during the greater part of the illness. The mineral acids and the juice of the lemon and lime were resorted to early in the treatment of the case, but were invariably rejected by the stomach. Quinia and alcoholic stimulants were also given with regularity during the treatment. A wash, composed of tannic acid and brandy (℥j to f℥viij), was used locally and thought to have a good effect in the way of constringing the capillaries and allaying troublesome itching.

Remarks.—This case illustrates very well one of the exceptions to the ordinary rule that purpura hæmorrhagica largely occurs in weak and anæmic subjects, and shows that the naturally strong and plethoric have no immunity from the disease. It also points to the fact that hereditary predisposition often has much to do with its development. And, moreover, it would seem to contradict the assertion of those who hold that purpura hæmorrhagica does not invade the integument of the face.

VIENNA.

(*From our Special Correspondent.*)

Honor to Prof. v. Arlt.—Prof. Arlt has recently received the "Comthur" (Commander) Cross of St. Michael's Order of Merit.

Langenbeck's Successor.—It is announced in Berlin that the Faculty of Medicine have proposed to the Ministerium the name of Prof. Richard Volkmann, of Halle, as successor to Langenbeck. Richard Volkmann was born in Leipsic, 1830, is a son of the formerly famous physiologist and anatomist, Volkmann, who was transferred from Dorpat to Halle, and who died in 1878. Prof. Richard Volkmann received his first surgical training under the eyes of Blasius, the renowned surgeon of Halle, and later became the pupil of Langenbeck. Still later, he was appointed Docent of Surgery in Halle, where, as the first assistant of Blasius, who was suffering at the time from an affection of the eyes which incapacitated him for the performance of most operative procedures, he perfected his many-sided surgical education. Germany is indebted to Volkmann, more than to any other individual, for the introduction into surgical practices of Listerian principles.

Medical Notes from Italy. *Ovariotomies.*—Dr. Fernando Franzolini performed two operations on June 1st at the Civil Hospital of Udine—one on a girl of 19, with an unilocular cyst, duration 28 minutes, and the other on a woman of 53, having a large cystoma of the left ovary, with extensive peritoneal adhesions; duration an hour and ten minutes. No drainage employed; Lister method; cases promised well at time of report. These were the seventeenth and eighteenth ovariotomies of Dr. Franzolini. [He was the first in Italy to safely remove the entire uterus and ovaries, and has also extirpated a hypertrophied spleen with entire success; his only Porro operation was fatal, as the woman was in extremis from a pulmonary complication.—Ed.]

Total Extirpation of Uterus per Vaginam.—Dr. Calderini operated on May 14th at the Obstetric Institute of Parma, in a case of uterine sarcoma. The woman died of exhaustion in four days. The last operation by Dr. Margary, at the St. Giovanni Hospital of Turin, resulted favorably.

Appointments and Changes.—Dr. Paolo Negri, Second Assistant of the Obstetrical School of Milan, has been appointed, through the *concours*, to the post of Professor and Director of the School of Obstetrics in Novara. Prof. Chiara, chief of the same school in Milan, under a proposition of the Faculty of Florence, with the approval of the Superior Council of Public Instruction, has been appointed ordinary Professor of Obstetrics and Gynecology in the "Instituto di perfezionamento" of Florence. Dr. Luigi Mangiagalli, First Assistant of the same school in Milan, has been elected extraordinary Professor of Obstetrics and Director of Clinical Obstetrics in the Royal University of Sassari. Prof. Edoardo Porro, of Cæsarian fame, has been appointed to succeed Prof. Chiara, as Chief of the Royal Obstetrical School of Milan.—*L'Independente di Torino*, 5 Giugno, 1882.

Drs. Porro, Chiara, Mangiagalli, and Negri, thus honored, have together performed *Cæsarian Ovarohysterectomy* nine times, and saved seven women and nine children. Dr. Porro, in his new position, will have greatly increased opportunities for testing the value of his operation. Who are to be his two aids has not yet been announced. Dr. Nicolini was his assistant at Pavia, and saved a woman and child in a private Porro operation. The school in Milan will have an entirely new faculty.

Health in Michigan.—Reports to the State Board of Health, for the week ending July 15, 1882, indicate that cholera infantum has considerably increased; cholera morbus, consumption of lungs, intermittent fever and dyentery have increased, and that neuralgia, remittent fever and diarrhœa have decreased in area of prevalence.

Including reports by regular observers and by others, small-pox was reported present during the week ending July 15, and since, at 5 places, as follows: at Detroit (4 cases), at Flint (20 cases), at Lansing (one case), July 15; at Grand Rapids (3 new cases), July 16, and in the township of Greenfield, Wayne Co., July 19.

SANITARY EXHIBITION OF THE NEW JERSEY STATE BOARD OF HEALTH.—An exhibition of sanitary, household, and ornamental articles and appliances will be held at Waverly, N. J., commencing Sept. 18 and lasting one week, under the auspices of the New Jersey State Board of Health.

CONGRESS MEMORIALIZED TO CONTINUE THE POWERS OF THE NATIONAL BOARD OF HEALTH.—The State Board of Health of Michigan has forwarded the following memorial to Congress:

Your memorialists, the Michigan State Board of Health, respectfully represent:

That small-pox, diphtheria, and scarlet fever, have been and are being repeatedly introduced into this State by immigrants newly arrived from foreign infected places, and by travellers who have come in contact with such immigrants; that because of the rapidity of travel, and the vast amount of inter-State travel, it is impossible for State or local boards of health, without extraordinary interference with inter-State commerce, to successfully quarantine against or effectually control these diseases while the United States Government permits one or more of them to be introduced so frequently as of late by immigrant vessels which reach this country; that while in ordinary years the introduction of scarlet fever and diphtheria is believed to be of exceeding consequence in causing epidemics, in swelling the death-rates, sickness-rates, pauperism, and general suffering, cholera and yellow fever are sometimes thus introduced, and at the present time small-pox is causing especially wide-spread disaster in this and other Western States; that, by reason of such introduction of diseases, the lives, health, and happiness—those dearest and most important interests of our people—are constantly destroyed or placed in imminent danger from those foreign pestilences from which it is entirely possible for the United States Government to afford protection; that we believe that it is the highest duty of a government to protect the lives of its citizens from dangers which threaten all, and from which no other than governmental protection is adequate; that it is with deepest apprehension that this State Board of Health learns that by reason of insufficient provisions, in the Sundry Civil Service Appropriation Bill, for the National Board of Health, the important work which that Board has lately commenced and is expected to do is likely to be crippled; that this Board believes that now, more than ever before, is a most inopportune time to lessen in any way the activity and usefulness of the National Board of Health, believing as this Board does, that there is no other governmental department, bureau, or "service" so closely connected with the highest interests of all citizens and of humanity.

Therefore this State Board of Health earnestly prays Congress to grant sufficient appropriations to the National Board of Health, and to make such other provisions as will enable it to continue the immigrant-inspection service at all important ports of entry, and on important lines of travel, and to provide in every possible way for the protection of the whole country from cholera and yellow fever, and also from those contagious diseases hereinbefore mentioned which are well known as causing the most deaths and distress, throughout the greater portion of this country.

By direction and on behalf of the Michigan State Board of Health.

NOTES AND QUERIES.

MALIGNANT MALARIAL FEVER.

To the Editor of THE MEDICAL NEWS.

Sir: There exists along the rivers and water-courses in the mountains of Northern Arkansas, a disease characterized by incessant nausea and vomiting, obstinate constipation of bowels, pulse large, slow, and compressible in most cases, in extreme cases quick and wiry. Respiration sighing; temperature, as a rule, low, seldom exceeding 102° Fahr.; much jactitation; tongue broad, indented at the borders, and covered with a moist, white glazed coat; pupils somewhat dilated, and reacting sluggishly to light; skin usually moist, and in mild cases the face is flushed, in the more severe sallow or sodden. The disease occurs in the latter part of summer and early autumn. The laity attribute it to the milk and flesh of cows (milk sickness). Many physicians regard it as a malignant form of malarial fever. I have never seen anything like it in the swamps of the South during four years' experience there. It is useless to say the disease is often fatal. The usual treatment here is alcoholic stimulation, quinia, and laxative enemata.

Any information obtained as to its etiology, nature, or treatment will be thankfully received, for not having access to any extensive library, I have no means of knowing anything of its literature or obtaining any knowledge in regard to it except by observation.

Respectfully,

J. T. CLEGG.

SILOAM SPRINGS, ARK., July 13, 1882.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 17 TO JULY 24, 1882.

CORSON, J. K., *Captain and Assistant Surgeon.*—Relieved from duty in Department of Arizona, to proceed to Philadelphia, Pa., and on arrival, report by letter to the Surgeon General.—*S. O. 164, A. G. O., July 17, 1882.*

ELBREY, F. W., *Captain and Assistant Surgeon.*—Granted leave of absence for six months on surgeon's certificate of disability.—*S. O. 168, A. G. O., July 21, 1882.*

HOPKINS, WILLIAM E., *First Lieutenant and Assistant Surgeon* (recently appointed).—To report by letter to the Commanding General, Department of the East, for assignment to temporary duty.—*S. O. 164, c. s., A. G. O.*

BARROWS, CHARLES C., *First Lieutenant and Assistant Surgeon* (recently appointed).—To report in person to the Commanding General, Department of Arizona, for assignment to duty.—*S. O. 164, c. s., A. G. O.*

MUNDAY, BENJAMIN, *First Lieutenant and Assistant Surgeon* (recently appointed).—Assigned to temporary duty at Willet's Point, N. Y.—*S. O., 164, c. s., A. G. O.*

WILSON, GEORGE F., *First Lieutenant and Assistant Surgeon* (recently appointed).—To report in person to the Commanding General, Department of the Columbia, for assignment to duty.—*S. O. 164, c. s., A. G. O.*

OWEN, JR., WILLIAM O., *First Lieutenant and Assistant Surgeon* (recently appointed).—To report in person to the Commanding General, Department of the Columbia, for assignment to duty.—*S. O. 164, c. s., A. G. O.*

EGAN, PETER R., *First Lieutenant and Assistant Surgeon* (recently appointed).—Assigned to temporary duty at the recruiting depot, David's Island, N. Y.—*S. O. 164, c. s., A. G. O.*

WAKEMAN, WILLIAM J., *First Lieutenant and Assistant Surgeon* (recently appointed).—Assigned to temporary duty at Columbus Barracks, Ohio.—*S. O. 164, c. s., A. G. O.*

EVARTS, EDWARD, *First Lieutenant and Assistant Surgeon* (recently appointed).—To report in person to the Commanding General, Department of the Columbia, October 1, 1882, for assignment to duty.—*S. O. 164, c. s., A. G. O.*

CARVALLO, CARLOS, *Captain and Assistant Surgeon.*—Died at Boston, Mass., on July 23, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

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VOL. XLI. SATURDAY, AUGUST 5, 1882. No. 6.

ORIGINAL LECTURES.

THE PATHOLOGY OF PUERPERAL ECLAMPSIA.

Abstract of a Clinical Lecture delivered at the Vienna General Hospital.

BY PROF. JOSEPH SPAETH.

(*Specially reported for* THE MEDICAL NEWS.)

THE subject constituting the text of the following remarks was a powerfully built, well-nourished peasant woman, who was delivered at two o'clock A.M., and who was attacked one-quarter of an hour after delivery with an eclamptic seizure. The seizure lasted but a short time, and did not repeat itself during the course of the day. At the time of presentation before the class, the patient had apparently recovered, and was perfectly conscious. The temperature was not elevated directly after the seizure, and showed no important deviation from the normal during the following day. No albumen was demonstrable in the urine.

If, said Prof. Spæth, we inquire into the etiology of this particular seizure, we will find that the causes are no more detectable than those of puerperal eclampsia in general. About the whole subject we know nothing positively. Up to the year 1843, very indefinite conceptions of the causes of this affection were expressed in such vague, general terms as 'nervousness,' 'disposition to convulsions,' 'reflex excitability,' *et id genus omne*. When we observe that eclamptic seizures occur just as frequently among the heartiest peasant women as among the most delicate females in a large city, we must give up the condition of the necessary antecedency of a feeble constitution. A so-called transposition or metastasis of pains was then accepted as the cause of the seizures, and this was bound up with the obscure idea that the innervation which normally should have effected uterine contractions, was exercised upon the muscular structures of the trunk. In 1843, a substantial advance was made in this inquiry. It was asserted that albuminuria could be demonstrated in every case of eclampsia, and that the convulsions were initiated by the altered condition of the blood resulting from morbus Brightii. Frerichs declared the symptoms to be uræmic, and originated the theory that the products of decomposition of the urine, in particular, carbonate of ammonium, acted as irritants upon the nerve-centres. Frerichs further asserted, in proof of his position, that carbonate of ammonium could be detected in the expired air of a patient suffering from eclampsia parturientium, by holding up before the mouth and nose of the individual a glass rod moistened with hydrochloric acid, whereupon a thick, white cloud of ammonium chloride would be deposited. When, however, in actual fact, this experiment does succeed, which is by no means always, it must be borne in mind, that ammonium carbonate can arise just as easily from putrefactive changes in the air of the sick-room, as from metamorphoses within the body of the patient. Frerichs recommended, as the resultant of his theory, the administration of benzoic acid in puerperal eclampsia.

Other cases of eclampsia, however, were observed where no morbus Brightii was demonstrable, and where no disease of the kidneys whatsoever could be determined. Rosenstein then set up the theory that serous exudation into the brain was the cause of eclampsia. He affirmed that œdema of the cortex cerebri induced coma, while œdema of the more deeply lying convolutions produced convulsions. Pregnant women, as a fact, have a significant disposition towards œdema, and this is to be explained by the fact that the blood of pregnant women is relatively poor in albumen. Every elevation of arterial blood-pressure aids transudation of serum. Now, we know that activity of the muscles causes a rise in blood-pressure, and it is plainly to be seen that during delivery, when the labor pains call into functional activity every muscle in the body, a very significant elevation of arterial blood-pressure must ensue. Rosenstein's theory must seem very plausible, but, on the other hand, Spiegelberg, about ten years ago, injected into the veins of dogs ammonium carbonate, and caused thereby convulsions.

Statistical collections of observed cases of eclampsia give a large number where no albumen was demonstrable in the urine, and where the autopsy revealed no disease whatsoever of the kidneys. After this *résumé*, we must conclude that neither the theory of Frerichs, nor of Rosenstein, is extensive enough to cover all cases, and that, as regards the etiology of the affection, we know nothing positively.

One interesting feature about eclampsia is that isolated, single cases extremely seldom occur; when one case is observed, we can always rest assured that a number will immediately follow. The case before us can be characterized as an extremely light attack, as there has been but one seizure, and the patient is already conscious. In genuine eclampsia, the seizures repeat themselves in great, sometimes fabulous, numbers, as many as sixty and over. The intervals are of very various duration; they may last minutes, or even days.

Kiwisch has affirmed that eclampsia only occurs in women in labor. Cases are not rare, however, in which eclampsia has occurred during pregnancy; evacuation of the uterus, in these cases, soon follows, however. In the first half of pregnancy eclampsia is never observed.

The treatment must be directed by the view we take of the etiology and pathology of the affection. Formerly, derivatives and rubefacients were employed largely. Revulsion, by means of the rectum, was formerly also a very popular remedy. Among alteratives, tartar emetic was extensively used, usually one grain tartar emetic to six ounces decoctum altheæ, in tablespoonful doses, was exhibited during the course of the day. In the unconscious condition of the patient, the folly of the administration of this drug is sufficiently obvious.

Later, when the essence of the disease was supposed to be a congestion of the spinal cord, blood-letting was extensively advocated. By all rational practitioners of medicine, this method of treatment has been abandoned, since it has been abundantly demonstrated by post-mortem examinations that eclamptic patients die of œdema of the lungs, and that the brain and spinal cord is in an anæmie condition.

The most generally accepted treatment, at present, is the use of all forms of narcotics. Probably the best results are obtained by the conjoint employment of chloroform inhalations and subcutaneous injections of morphia. This treatment was accepted by Rosenstein as quieting the muscular system and thereby preventing a rise in arterial blood-pressure.

ORIGINAL ARTICLES.

THE COMPARATIVE VALUE OF LARGE AND SMALL DOSES, AND LONG AND SHORT INTERVALS, IN THE ADMINISTRATION OF MEDICINES.

BY J. R. BLACK, M.D.,
OF NEWARK, OHIO.

I am unable to perceive any good grounds for the routine plan of ordering medicines to be taken every two, three, or four hours, except that in some instances their more ostensible or gross effects begin to pass off at about these intervals. If the inquiry be made of the ordinary practitioner why he orders the administration of his doses at such intervals, he would be puzzled to give any other answer than that cited, or perhaps refers to authority for it only; and, so far as authorities are concerned, they seldom assign any reasons other than the above for such arbitrary rules, and in a purely incidental way. In fact, the more any one thinks about the method, the more does it appear in the main as a crystallized habit or a simple following of established routine handed down from one generation to another. But even the well-grounded observation that the maximum effects of some medicines begin to subside at such approximate intervals furnishes no adequate reasons for concluding that like rules appertain to all, or even to the larger number of medicines, nor even for the supposition that the maxima of effects are the most efficient for the removal of disease. The appearance and disappearance of the extreme effect of a diaphoretic or of a diuretic may be much more brief or more extended than the three-hour interval; so may that of an opiate, or of a dose of quinia.

But granting that the maxima of gross effects of medicines appear at about these intervals, and that a repetition of them is required for their maintenance, by no means proves that large and distantly repeated dosing is the most conducive to steady therapeutical results, or that it is the best in most instances for the removal of disease. Assuming gastric imbibition to be in a nearly normal state, and remembering the fact that the blood makes its circuit in about every three minutes, and assuming it to be the object to act upon the blood or upon the nervous system, or upon some functional derangement of an organ more or less remote from the stomach; and, above all, assuming it to be the object to render the influence of a medicine, as far as practicable, as uniform and continuous as that of the disease, so as to oppose, modify, or subdue it, then we equally fail to discern the wisdom of ordering large and distantly repeated dosing.

Besides, the practical applications of several large and important classes of remedies show no maxima and minima effects on which to base a rational pretext for prescribing large and distantly repeated potions. Such is true of alteratives, of febrifuges, and of tonics. Their immediate and mediate effects, it is commonly impossible clearly to discern, while the rule of dosage is usually all that the stomach can well bear. Perhaps the rule of three- or four-hour intervals first arose during the crude conceptions of times long gone by, when medicines, like food, were supposed to need a certain period for proper assimilation; and hence, as large potions of them as the stomach and system could well tolerate were ordered, and to be taken at about meal intervals. The object of this paper is to inquire if such a method is the best, not only for rendering the most effectual assistance to the *vis medicatrix naturæ*, in the removal of disease, but also for promoting and popularizing the practical applications of the healing art, by rendering our prescriptions much less offensive and distressing than they now are.

Disease, with comparatively few exceptions, is a continued state of abnormal action for more or less extended periods, though subject commonly to one or two diurnal exacerbations. Examined more closely, and with instruments of precision, its phenomena in general terms are found to involve molecular changes of peculiar kinds, whose energy usually far exceed those which pertain to the healthy state. That unusually swift transformations and disintegrations of the blood and tissues are going on in states of disease, is amply confirmed, deductively, by the abnormally high temperature, the rapidity of the circulation, the general restlessness, the insomnia, and the copious ejections of retrograde organic matters from the system through its various outlets. The high temperature alone warrants the conclusion that a swifter rate of transformation is in progress than ordinary.

Turning now from these generalities in reference to acute diseases to those of a chronic type, we find that although there is not the same evidence of a like rapid metamorphosis of a systemic kind, an intimate knowledge of the morbid state nearly always renders it apparent that at the chief point or points of abnormality the same, though a more limited, sphere of unnatural metamorphic change is in progress. This may be pronounced to be invariable, except in the sequelæ of an aborted organic metamorphosis, as, for instance, the benign sclerosis of some important tissue. But it is here specially worthy of remembrance that during the inception and maturation of a morbid process, confined to some organ or special tissue of the body, the rule of undue molecular change and the enhancement of morbid energy are not subject to any *omni bihori* or *quad nihoro* rule.

Pathological action being then very much the same as the physiological in continuity, we are again led to inquire on what grounds are medicines ordered to be taken at two, three, or four-hour intervals, and usually in doses as large as the stomach can bear, or to the utmost limit of safety upon the functional integrity of some organ of the body. Is the organism better enabled to throw off disease by disturbing medication, or by heavy strokes, so to speak, repeated at three- or four-hour intervals, or by the proper recognizance of the principle, that as morbid processes are usually only subject to minor variations in the continuity of their energy, our counteracting agencies should be subject to like rules? If the latter, then it follows as a necessary corollary that remedies should be administered in

much smaller doses than they now are, and at far shorter intervals. This is the point which I wish the reader to consider with me.

It has been abundantly proven that liquid or soluble medicines usually make their appearance in perceptible quantities in the urine or other excretions or secretions, in from five to thirty minutes after administration; much, of course, depending upon the energy of absorption, and the functional state of the secreting or excreting organs. These may be inordinately active or inactive—points which do not here concern us—the rule being within the limits given.

Suppose, then, it to be the object, which no one will deny, of the therapist to modify beneficially the molecular energy of disease, by the molecular energy of a medicinal substance, is it not the most rational mode not to distress or embarrass the stomach by heroic doses of it, but to order small ones often repeated? Such a course commends itself to the judgment on several considerations, some of which I shall here adduce. The administration of medicine in full doses is very apt to beget some gastric distress bordering upon, or actually productive of, nausea, with or without vomiting. The mere fact that such a condition has ensued is, *per se*, evidence that the stomach has set up actions (reversed vermicular movements) to expel the medicament, and this being the state the least of all favorable to prompt imbibition, the hindrance of therapeutical effect is thus successfully accomplished. The spontaneous occurrence in health of nausea after eating or drinking denotes the arrest of gastric assimilation, and is it not plain that its induced state must also be productive of a like arrest for longer or shorter periods? Of course, when vomiting or temporary nausea is the object desired, the larger dose is justified, but when it is the purpose to have a medicine affect the system at large, and act upon or through the blood, the unsuitableness of large doses for a prompt and steady effect is sufficiently evident. Besides the retarded effects of large doses of medicine, they not unfrequently injure the stomach, giving rise to uneasiness bordering on pain, the nausea frequently reaching the grade of emesis; or else by increased downward peristalsis, the medicine is passed quickly into the intestines, where it is either expelled in larger part, or rendered almost nugatory by diminished regional absorption, and by admixture with the fecal contents.

In nearly all forms of disease, the object of the therapist being to modify morbid energy, and usually more in one special organ or tissue than others, a little reflection ought to make it, to say the least, more than probable that this can better be accomplished by small and oft-repeated doses than by the opposite method. The imbibition of a medicine is not a spasmodic but a continuous process, nor does the medicament require two or three hours for digestive assimilation. Whenever a steady impression or a continuous morbid process is desirable (and when is it not?), the frequent administration of the medical agent has the best apparent correspondence to the internal process. A nicer adjustment of therapeutical energy to vital actions is not only thus attained, but flood-tides of distressing or alarming effects from the over-effects of medicines are obviated, as are also the cumulative perturbations of function, now excessive, then defective, or may be perverted. Indeed, the disturbances of function from large doses are often so profound, that the over-effect of one medicine needs to be corrected by another, thus compelling the medical attendant to turn his attention to the correction of his own errors, instead of fixing it upon the disease he is attempting to manage.

Not a few physicians seem to take a sort of coarse-minded delight in producing startling effects by their prescriptions. If a patient be made very much more sick by the medicine than he was by the disease, if he has been vomited or purged severely, and not much the worse for it, such a pill-dispenser is disposed to regard the strength of his potions with a pleased serenity. But it may be—indeed, frequently is—the case that he is put upon the defensive to justify such a severe course as a therapeutical necessity; and he also often perceives the necessity of correcting the extreme effects of his doses. All I have to say to such is a repetition of the golden rule—do not to others which you would not wish done to yourself. One thorough personal experience of that kind every such physician should be made to undergo. I am far from asserting that heroic doses, or even distressing effects from the action of medicines, are never justifiable, but only this, that, as a rule, by small and frequent repetitions of them better therapeutical effects are almost invariably obtained, and in a manner scarcely disagreeable; more refined, prompt, and decisive, because more congruous with the unbroken and ceaseless play of the functions in the most delicate and nicely adjusted organism with which man has to deal.

But over all evidential statements in favor of this reformation rises that of experimental observation. Let the doubting reader give the plan here advocated a fair trial in any appropriate cases of disease, and, if a good observer, apt to discern something more than the production of crass effects —which any boor can—viz., the far more subtle indications of improvement in the action and interaction of the vital functions, then I doubt not of agreement. Or suppose it to be desirable to increase a secretion or excretion; suppose it to be desirable to bring the energy of a medicine to bear upon a special organ or tissue, so as to modify its functions for the better; suppose it to be desirable to produce an alterative effect upon the organism as a whole, let small and oft-repeated doses be ordered, and the adduction of further argument on superiority would not be required. Suppose aconite is deemed to be the appropriate remedy, say for a facial neuralgia, let drop doses of the fluid extract of the root be prescribed, every half hour or hour, according to the urgency of the pain, and when this begins to abate, lessen the dose or extend the interval, until complete relief is afforded. Or suppose that free biliary and intestinal excretion presents itself as the indication to be carried out, let half-grain granules

of calomel be alternated every hour with granules of aloin of the same size, and a free, easy, and steady outflow will be produced, the calomel exciting (despite Bennett's experiments) the discharge of bile from the liver, and the aloin, by its influence upon the large intestine, insuring its expulsion from the body. All this can usually be carried out without producing the sickness, nausea, and malaise which ordinarily follow the administration of enough of these agents, at a single dose, for the production of a like effect. Or suppose that Fowler's solution contains the kind of energy needed for the removal of disease, let a drop be ordered every hour or half hour, and the therapeutical effects will be superior to doses as large as the stomach can well bear taken two or three times a day. The reasons why, are not difficult to apprehend. The ten-minim dose, if taken on an empty stomach, not unfrequently acts as an irritant, and thus defeats partially or entirely the purpose of its administration, while, if taken after meals, its action is somewhat delayed, and its influence in part lost by admixture with excrementitious matters. But if taken in much smaller doses, and at shorter intervals, an immediate irritant effect is obviated, and, by the law of averages, a more certain and uniform mean of effects is obtained during the variable states of the stomach and its contents.

Or, again, small and often repeated doses are peculiarly appropriate in cases of gastric debility, irritability, and in diarrhœal and dysenteric disorders. What are known as full doses of almost any medicine, nay, even of foods and drinks, often defeat the purposes for which they are taken by acting as repelling irritants on the gastric and intestinal villi, whereas small and frequently repeated ones do not arouse and excite vital resistance like a large and rough bolus. In almost all forms of disease the sensibility of the stomach, like that of the nerves at large, is usually in an exalted condition, with its functional activity more or less in a state of abeyance, and yet the rule in prescribing is to make the dose as large as the stomach can well tolerate. Either unintended extreme or irregular effects are thus almost sure to arise, results it has long been the universal habit of physicians to guard against only, instead of seeking radically to abolish. By rendering the applications of medical energy more nearly synchronous with that of a morbid process, not only would these untoward effects be obviated, but the energy of quickly successive administrations would be more equably diffused, more continuous, and more in harmony with that of the disease which it is the object to modify.

It may occur as an objection to the method of administration here advocated that the eliminative organs may carry small portions of a medicine out of the system before it evolves the characteristic effect of a large dose, and so cause a failure of the object intended. In other words, if a saline be prescribed to act as a purgative, if the dose is small and frequently repeated, the effect may be simply that of diuresis. That such is the operation of some salines when only a few small doses are ordered, the most ordinary experience sufficiently verifies. But the objection, though plausible, is not valid. Either the saline is not aptly selected, properly combined, or skilfully administered. There is ample proof of this outside of the testimony of Drs. A., B., or C. The evidence furnished by the innumerable invalids who resort to the aperient mineral springs of the world, is all to the effect that very insignificant portions of saline elements, frequently repeated, do get up with great uniformity an active cathartic effect. The amount in grains of the saline thus taken, *per diem*, is far below that which the physician usually orders at a single draught, and yet in the face of all this, and knowing how easily taken and pleasant in effect is the action of the mineral water when compared with the huge and nauseating dose of the apothecary, the old method remains in full vogue.

There are, as a matter of course, some states of disease in which rapid and strong explosions of medical energy are eminently proper, such as the sudden onset of a violent paroxysm of disease, as, for example, in migraine, or in any sudden seizures of extreme pain, where the hypodermic method is of course the best, or when the prompt production of a mechanical effect is desirable, as in emesis. But in each of these examples, it will be discerned that the objects are temporary, simple expedients to meet certain emergencies—not the carrying out of a systematic plan of cure for a protracted disease.

We are thus brought to this cardinal principle of therapy, deserving to be ever kept in mind, that as the almost invariable object of administering medicines is for the purpose of modifying deranged vital energy by the energy of the medical substances at our command, the applications of them should conform as nearly as practicable in grade and steadfastness of action to that of the disease. Whenever the morbid process shows continuity, so also should that of the agents brought to bear upon it. Or, putting the statement in an obverse aspect, as the administration of large doses of medicine at three- or four-hour intervals is acting on the rise, culmination, and decline principle of effects, such applications of therapeutical energy are justifiable only when the vital morbicity shows a like course. Is there any thing like this variability in the ordinary course of a single disease?

When the disease to be combated is inflammatory, or a febrile zymosis, or a structural lesion of some organs, or simply a functional derangement, more or less durable; or when the principle of therapeutical management clearly appears to be to keep all the outlets of the body in grade of action somewhat in consonance with the rapidity of molecular waste, the aim of the physician, it appears to me, should be to render the influence of his remedies far more uniform and continuous than he now does, or more like that of the disease. A better congruity in these respects is a comparatively easy matter, as it involves simply increased division of doses and of their periods of administration.

SUPPOSED DEATH BY CHLOROFORM.

By R. A. KINLOCH, M.D.,
of Charleston, S. C.

It is desirable that there should be recorded every death attributable to either of the anæsthetic agents in use, for it has hardly been settled that one of these agents should be universally employed because of its immunity from danger. In certain sections of our country and of Europe, chloroform is still the favorite article used, for its general adaptability and because in the largest experience it has proved safe as well as satisfactory. In other sections there is a strong prejudice against chloroform, and a belief that ether is entirely free from danger. I have, in an experience of over thirty years, never had occasion to distrust chloroform, and have never until now seen a death attributable to its administration. From very many experiments and observations, however, I have been led to believe that ether is less apt to be followed by nausea or by great depression of vital power. My rule of practice then, in late years, has been to employ chloroform in surgical and obstetrical practice, except in operations necessarily protracted, or where nausea and vomiting would be prejudicial to the condition of the patient. I am inclined to doubt if the death, in the case which follows, can be attributed solely to chloroform. Fright, terrible anxiety, a peculiar nervous organization, and an exalted moral sensibility, may have had much to do with the sad termination. But I prefer reporting the case and leaving it to the verdict of the profession.

Further interest attaches to it from the fact that the secular press has circulated through the country the grossest mis-statements regarding the case itself, and the conduct of the physicians connected with it. I will notice and correct only two of these. It has been falsely stated that assistants were introduced into the operating chamber of the patient against her wishes, and while she was insensible from chloroform. The truth is, the consent of the lady was freely given, because she knew that the assistants were necessary. Her only desire was that she should be chloroformed before they were introduced. Next, it has been affirmed that the cause of death was suppressed in order to shield the physicians, and to prevent a coroner's inquest. The truth is, the death (although the matter was rather doubtful) was at once assigned to the chloroform. This was announced frankly to the family of the deceased and to others. Moreover a mortuary certificate of death from *chloroform narcosis* was handed to the City Registrar, in order to obtain a permit for burial.

Case.—On the 7th of May, 1882, I was called to attend Mrs. L. R., who had long been an invalid, and been attended before by two very worthy practitioners of this city. She was aged about forty, married, a mother of two children, the last being six years old. I found her thin, anæmic, unable to exercise without much backache; never sleeping well at night; having usually prolonged and profuse menstruation—in the intervals, much leucorrhœal discharge; great bearing-down sensations, with vesical and rectal tenesmus; difficult digestion and constipation. These symptoms, in part, pertained to her since the birth of her first child, but had been more continuous and severe for several months past. There now also is complaint of severe paroxysmal cough, with the physical signs of sub-acute bronchitis on both sides of the chest. The pulmonary symptoms Mrs. R. attributed to a recent cold. She said she had sent for me chiefly to relieve her of the trouble which she had had during many years, and which made life a burden to her. She said she knew the disease to be uterine. Other physicians had treated her for this; but she was in hope that a radical operation might relieve her. There was prevailing an epidemic of whooping-cough, and the children in the house had suffered. Mrs. R. had formerly had this disease, but the character of her pulmonary symptoms led me to believe that she was to some extent suffering from the "epidemic constitution of the atmosphere." She was anxious for a thorough examination; so, after prescribing for her cough, I appointed an early day for the purpose, and in due time discovered a left lateral fissure of the cervix, reaching to the cervico-vaginal junction; also an elongated and enlarged cervix, a prolapse of the bladder, and prolapse and partial retroversion of the uterus. I gave as my opinion that much could be done by treatment, both local and general, but that, first of all, the cough must be relieved, and the digestive organs improved. In time, I proposed to apply local remedies to the uterine and cervical cavities, and to close the fissure by operation. Mrs. R. was intent upon an early operation, as she said she had too long been trying palliative remedies. I could with difficulty persuade her that these radical means must for a time be postponed. After about a month's general treatment, part of which time I was absent from the city, Mrs. R. had so improved that she again renewed the question of operation, saying that her cough did not now affect her, and that she wanted to be attended to before leaving the city for a summer's vacation. While regarding her as a rather bad subject for any operation, I, nevertheless, thought the cervical fissure could be closed without risk, and that, by the use of a pessary, she could be enabled to go comfortably into the country.

June 19th was appointed for the operation. Mrs. R. had always been exceedingly sensitive as to the matter of personal exposure, and I readily consented to give the chloroform only in the presence of female attendants. When the request was made for the patient to get upon the table, she became much excited, and could scarcely be comforted and assured. She shrank back as one having a feeling of impending danger. I subsequently learned that she had had a presentiment of death, and went so far as to write out requests she wished fulfilled after death. I mention these facts to illustrate the nervous condition of the subject, as with many it may be considered as having something to do with her sad end. The chloroform was given upon a towel folded funnel-fashion. The towel was at first held a little distance from the face, until the patient grew accustomed to the vapor and was habituated to

the proper inhalation. The usual period of excitement came on, with some struggling of the arms and rolling of the body. One of the female attendants helped to control these movements, and in a short time relaxation began to be evident, with the slightest stertor of breathing. Less than three drachms of chloroform had been used. I at once suspended the chloroform, passed the towel over to the nurse, who was at the bedside, and a little removed, and asked her to hold it where she was. I felt no apprehension about the patient, and moved to the door separating the chamber from the parlor, and called to Drs. Simons and Pelzer, my assistants, to enter. I now took my position at the foot of the table, while my assistants remained at the side, and began to put the patient into the semi-prone and lateral position for operation. I little thought that during the few seconds of absence the cumulative effects of the drug would be exhibited. Glancing at the face of the patient, I suddenly discovered that it was cyanosed, and the eyes staring and fixed. I called to Dr. Simons to notice if the breathing was right, and almost simultaneously we both advanced to the patient's head. I saw that the respiration was embarrassed, and heard a gurgling noise coming from the presence of mucous secretions in the bronchii. Dr. Simons raised the head of the patient, and turned the body partly over into the supine position. I threw up the windows, dashed cold water upon the face and chest, slapped the surface smartly, depressed the head, while the body and lower extremities were raised, injected brandy, and subsequently liquor ammonia and brandy, subcutaneously. Towels were wrung out of very hot water and applied over the cardiac region. Used galvanic battery as soon as this could be secured. Finally, noticing that the respiratory movements were now entirely arrested, also the action of the heart, while the veins of the neck were greatly distended, I opened, first, a vein at the bend of the arm, and afterwards the right external jugular, hoping that, by removing some of the dark blood from the cavities of the heart, this organ would have a better chance for contracting. All to no purpose—the heart remained paralyzed, and we had soon to realize the fearful fact that death had supervened.

A CASE OF STRANGULATED INGUINAL HERNIA WITH AN UNUSUAL COMPLICATION.

BY GEORGE McCLELLAN, M.D.,
SURGEON TO THE PHILADELPHIA HOSPITAL, ETC.

ON April 6, 1882, I was summoned at 6 P. M. by Dr. Tuttle, one of my assistants at the Philadelphia Hospital, to see a patient who had just been admitted, in a state of prostration without any history, the man being a Hungarian and unable to speak any intelligible language. I found the patient's pulse fairly good—80, I believe—with no apparent increase of temperature. The countenance wore a slightly anxious expression. There was hiccough, and at intervals a little vomiting of a glairy mucus. A large bulging protrusion existed in the right inguinal region. There was no testicle to be found outside of the tumor, which was of oval shape, and about four inches long, extending from a point corresponding to the internal abdominal ring to the raphe of the scrotum.

Upon percussion, an uncertain impulse was elicited, suggesting a fluid accumulation. There was no resonance, but a doughy feeling, giving the impression of a bunch of omentum. There was no impulse on coughing. There was no discoloration of the integuments, and no tenderness on pressure or manipulation. The abdomen was distended, and the patient complained of pains about the umbilicus. From a fellow-patient, who could speak a little Hungarian, it was ascertained that the bowels had not been moved for five days, and that the tumor had existed for two years, having been caused by an injury while riding on horseback. It had not increased in size lately, and the patient did not feel any new uneasiness in or about it. He felt the effect of constipation only, and had repeatedly tried to defecate without avail before coming into the hospital. Taxis had no effect in overcoming the protrusion.

I considered carefully the symptoms for strangulation, *i. e.*, the hiccough, the tympanites, the umbilical pain, and the absence of fecal discharges for five days, and the absence of impulse on coughing; and those against strangulation, *i. e.*, the pulse, the temperature, the absence of discoloration, and the freedom from tenderness in the region of the groin, the patient lying on his back without drawing up the legs to relax the part, and the strong probability of a testicle undergoing some cystic degeneration, etc. The weight of the latter symptoms seemed to justify the conclusion to administer oil by the mouth and by the rectum, to apply mush poultices over the abdomen, and to give stimulants and milk, and wait for further developments. On the morning of April 7 I found that the man had had an evacuation of the lower bowel by the enema, but that he had not retained anything whatever by the mouth. His pulse and countenance were good, although he was perceptibly weaker, and he vomited while I was in the ward for the first time what looked like stercoraceous matter. I therefore decided to operate without further delay, as it was evident that he was suffering with intestinal obstruction. The symptoms in other respects were unchanged from the condition of the evening before.

As soon as the patient was etherized, I cut down upon the tumor in its long diameter, laid open the several layers of fascia upon a grooved director, coming, finally, after ligating one small vessel, to what had the appearance of a cyst wall. The testicle could not be clearly defined. I broke up adhesions which were everywhere about the mass, and feeling sure that fluid was contained in it, I inserted an exploring needle, which showed that a serous fluid was within. A hypodermic syringe was then introduced, and readily withdrew an amount of bloody serum. The fluid looked like that of a hydrocele. I incised the sac, and at least four ounces of fluid escaped. Through the walls of the sac a bunch was felt at the upper portion, which was conjectured to be the testicle; but on further slitting up the sac, a large knuckle of intestine was found, with its mesen-

tery doubled upon itself, and presenting all the indications of having been incarcerated for some time. There were adhesions everywhere about its neck, attaching it to the sac, and a more recent constriction immediately above. The constituents of the cord and the testicle were found imbedded in a thick layer of tissue closely adherent to the inner side of the sac, the testicle itself being atrophied. After nicking the restraining bands about the neck carefully with a hernia-knife, the gut was restored to the abdomen. The walls of the gut were dense and thickened, and although congested had no indications of ulceration. The large mass of peritoneum being thickened and indurated, and having the cord and testicle intimately adherent upon its inner portion, was included in a stout double ligature and cut away. I united the edges of the wound with deep interrupted wire sutures, taking care to include the pedicle of the peritoneum in one of them. A carbolized sponge was trimmed so as to fit closely over the parts, and firmly applied with a spica bandage. The patient died eight hours after the operation from shock and peritonitis, having with great difficulty been brought out of the anæsthetic state, and having received every possible attention to sustain the powers of life.

The autopsy showed that a portion of the ilium (about fourteen inches long) was enlarged, indurated, and deeply congested. The point of strangulation was clearly marked. Very little fluid was found in the peritoneal cavity. The pedicle of peritoneum and the cord completely blocked up the internal ring.

In view of the facts above related, I am inclined to believe that the tunica vaginalis testis had always communicated with the peritoneal cavity of the abdomen before the receipt of the injury on horseback which the patient referred to, and that the intestine at that time found its way into the inguinal canal behind and above the testicle, and remained there. The wasted condition of the testicle was probably due to pressure on the cord, caused by the incarcerated intestine. The bands of lymph, which were remarkably firm and resisting about the neck of the hernia, opposed the return of the peritoneal fluid into the abdomen, although it is doubtful if there was not a passage existing before the strangulation. The extraordinary amount of peritoneal fluid contained in the sac was a most interesting feature of the case, as it rendered it very difficult to form a correct diagnosis. The unyielding nature of the walls of the sac is often found in an incarcerated hernia, but the apparent absence of the testicle in this case, and the character of the tumor, with its imperfect history were most misleading.

MEDICAL PROGRESS.

Sulphide of Calcium as an Antisuppurative.—Dr. Andrew H. Smith, Chairman of the Committee on Restoratives of the Therapeutical Society of New York, furnishes to the *New York Medical Journal and Obstetrical Review* for June, 1882, a report of the committee on the use of sulphide of calcium for the purpose of preventing or diminishing suppuration. After giving the experience of several members of the Society, Dr. Smith concludes his report as follows: Judging from this limited number of cases, it would seem that we are warranted in concluding that in many cases of suppurative affections, ranging from the small pustules of acne to extensive suppurating surfaces, an appreciable, and often a very marked, benefit is derived from the use of the calcium sulphide, suppuration which would otherwise take place being averted, or the quantity and duration of an existing discharge being lessened. At the same time its action is not uniform; and in many apparently favorable cases it will fail entirely. The drug is somewhat prone to irritate the stomach, and this circumstance affords an indication for small doses frequently repeated instead of larger ones at longer intervals. One-tenth of a grain every two hours in acute cases will generally secure the full therapeutical action of the drug, but larger doses may sometimes be required, and some patients will bear well a grain three or four times a day. Even in small doses the sulphide will occasionally produce headache, and the patient is usually more or less annoyed by eructation of sulphuretted hydrogen.

Coloboma of the Choroid and Optic Nerve Sheath.—Dr. A. H. Benson (*Dublin Journ. of Med. Sciences*, March, 1882) describes two cases of coloboma exhibited at a recent meeting of the Medical Society of the King and Queen's College of Physicians. Ophthalmoscopic drawings are appended. Both cases were discovered while the writer was assisting Dr. Fox in examining, for statistical purposes, the eyes of the deaf mutes in the institutions about Dublin. Both patients were deaf and dumb.

In the one case there was, in each eye, coloboma of the choroid without implication of iris or disk. In the other case there was in the right eye an enormous coloboma of the optic nerve sheath—the largest on record—associated with, but separate from, a very small coloboma of the choroid; and in the left eye a smaller coloboma of the optic nerve sheath, without coloboma of either choroid or iris, but in the position of the junction of the lips of the fœtal fissure a disturbance of the pigment layer, suggesting the idea of a raphé, where the trouble just stopped short of the production of a coloboma.

From these cases the writer concludes:

1. That coloboma of the choroid may exist without corresponding coloboma of the iris.

2. That closure of the fissure in the pedicle (optic nerve) takes place independently of the fissure in the optic cup.

3. That the fissure may close in the optic nerve and remain open in the bulb, or may close in the bulb and remain open in the nerve, or may remain open in both bulb and nerve, closure having taken place in the interval between the two colobomata.—*Ophth. Review*, June, 1882.

Excision of Pylorus.—Henck, of Heidelberg (*Wien. Med. Blätter*, May 18, 1882), at the Congress für Innere Medizin, tabulated the history of twelve resections of the stomach. One, which recovered, was performed in a case of stricture of the pylorus following perforating ulcer. The remaining eleven were for the removal of cancerous growths; four of these recovered from the operation; out of the recoveries, three patients are still alive and free from any recurrence; the fourth is known to have died four months after the excision, from a return of the disease. Czerny's patient, referred to in Internat. Med. Congress, who gained eleven pounds within six weeks of the operation, was ten months after the operation quite well, with

no symptoms of recurrence of the disease.—*Maryland Med. Journ.*, July 1, 1882.

STRETCHING THE OPTIC NERVE.—The first attempts at stretching the optic nerve were made by Wecker; in one case without success, in the others the result has not been stated. KUMMEL (*Deutsche Med. Wochensch.*, 1882, No. 1), by experimenting on animals, and on the cadaver, satisfied himself of the harmlessness of the operation, which consisted in passing a blunt spatula-shaped instrument through an opening in the conjunctiva at the inner border of the cornea to the point of insertion of the optic nerve, after tenotomizing the internus. Kümmel prefers passing a blunt strabismus hook in between the inferior and externus. In seven cases in which he performed the operation there were no serious consequences. Observations on the dead subject showed that tractions on the nerve produced an action spreading as far as to the entrance of the optic tract into the cerebral substance. In a patient who had been under treatment for a long time with iodide of potassium and strychnia, the stretching of the optic nerve produced an improvement. The other cases were unsuccessful, although the operation was not followed by any bad results. He recommends a trial of this operation in slowly progressing atrophies in which some qualitative light sensation still remains.—*Edinburgh Med. Journ.*, April, 1882.

A NEW FRACTURE OF THE ASTRAGALUS.—DR. SHEPHERD, Demonstrator of Anatomy at the McGill College, Montreal, has recently met with four specimens of a hitherto undescribed fracture of the astragalus. In each bone the injury consisted in the fracture of the outer projecting edge of the groove for the tendon of the flexor longus pollicis. In three of his specimens the union was fibrous, in the fourth it was bony. He has failed to produce the fracture experimentally, but he advances the view that it is produced by a twist of the foot outwards while in the position of extreme flexion at the ankle-joint, and further suggests that it may be one of the lesions in cases of severe sprain of the ankle-joint, and that it may account for the impairment of motion sometimes met with after what is believed to be only a sprain. All of his specimens were obtained from the dissecting-room, and he was unable to get any clinical history to throw light on the mode of production, or results of the injury. We should imagine that the diagnosis of this injury would be very difficult, if not altogether impossible.—*Lancet*, July 1, 1882.

THE ABSORPTION OF IODOFORM.—In view of the great discrepancies as to the fatal dose of iodoform, ZELLER undertook some experiments to determine how much and how rapidly iodoform was absorbed, and gave his results at the meeting of the Congress of German Surgeons at Berlin on June 1, 1882. Various opinions are held as to the changes which iodoform undergoes when absorbed, Moleschott believing the effects to be due to nascent iodine, Benz to the union of iodine with a metal, and others to a compound of iodine and albumen. According to Zeller, who estimated the iodine excreted through the urine, iodoform is only slowly and imperfectly absorbed from the intestine, while its excretion may last more than three weeks. It is rapidly absorbed from the abdominal cavity, under which conditions the bile coloring matters are also found in the urine, accompanied by severe toxic symptoms which are equally severe when the iodoform is applied to the surface of wounds: as iodoform accumulates in the blood it produces a cumulative action, so its results cannot be foretold. Iodoform is no more soluble in serum than in water.—*Deutsche Med. Wochen.*, June 17, 1882.

ACTION OF ALCOHOL ON DIGESTION.—BUCHNER (*Deutsche Arch. f. klin. Med.*, xxix. p. 537) has made a series of experiments on this subject by adding alcohol to artificial digestive fluids in a flask, and also by washing out the stomach six hours after a meal, and ascertaining what proportion of the food remained undigested when alcohol had been given or not given along with the food. He finds that alcohol up to 10 per cent. strength has no influence as such upon artificial digestion. When added so as to form 20 per cent. of the digestive fluid, it slows artificial digestion. In larger proportions it completely arrests it. Beer when undiluted completely stops artificial digestion, and when diluted slows the process. Red and sweet wines have a similar action, while white wines even when undiluted only slow digestion. Both beer and wine hinder digestion in the stomach even in small quantities. When the processes of absorption and secretion are already disturbed wine and beer may completely arrest digestion. They should, therefore, be given with the utmost caution or completely withheld in cases of gastric catarrh.—*Practitioner*, July, 1882.

THE CHOICE OF DRAINAGE TUBES.—M. NICAISE (*Rev. de Chir.*, Dec. 1881) points out the importance of using non-irritant India-rubber drainage tubes in the dressing of wounds. He gives the following directions:

The tube should be short and wide, and should not be in contact either with the bone or the ligature of the chief artery.

Tubes are gray, black, or red. They should be made from laminæ of pure caoutchouc cut with the saw, vulcanized, and desulphurized. Good tubes may be recognized by (1) the transverse markings left by the saw; (2) their lightness—they should float on water; (3) their strength—they should bear being tripled in length without breaking.

Bad tubes are made from sheets of paste made up with shreds of caoutchouc, zinc white, minium, etc. If gray, they remain so after being dipped in an alkaline solution. Gray tubes have not been freed from sulphur, and this separates out and irritates the wound; they should be avoided. Red tubes, which have been desulphurized by soaking three hours in a hot 10 per cent. solution of carbonate of soda, may be safely used. Black tubes answering to the above tests are the best of all.—*Practitioner*, July, 1882.

INJECTIONS INTO THE SUBSTANCE OF THE LUNG.—DR. E. FRANKEL (*Centralb. f. d. Med. Wissen.*, June 10, 1882) has injected acetate of alumina, carbolic and boracic acids, and iodoform into the substance of the lungs of rabbits, by means of an ordinary Pravaz syringe, to which, in order to prevent hemorrhage, he had attached slender needles. The number of injections varied from one to six daily, this number being sometimes given on many successive days, at other times with a few days' interval. The animals were apparently very little affected by the procedure; some even gained in weight. After they were killed, there were found indications of extravasation, proliferation, and infiltration in the pleura, and in the lung tissue. These were all progressing towards recovery, either by absorption or by the formation of cicatricial tissue. The author suggests that in cases of disease of the apices, injections might with advantage be made both in the affected parts and in the healty tissue adjoining, to change the character of the inflammation in the first situation, and in the second to increase its powers of resistance, and by the production of cicatrices, to lead to the formation of a barrier, which should arrest the extension of the morbid process. He recommends his method also in putrid bronchitis and gangrene of the lung. In the case of one patient, who expectorated

fetid sputa, he made six injections, using latterly 3 grammes of a 5 per cent. watery solution of carbolic acid; not the slightest reaction, not even a single cough, followed this little operation, but there remains the fact that the odor of the sputum was not in the least degree modified.—*Glasgow Med. Journ.*, July, 1882.

The Treatment of Epilepsy.—Künze (*Neurolog. Centralb.*, January, 1882) treated thirty-five patients suffering from epilepsy, with completely successful results in nine of them, by means of curare. The published cases show that complete recovery occurred in very severe cases of epilepsy, even when the disease had existed for years, and the intellectual faculties had become affected. Acting upon these results, Prof. Edlesfen has investigated anew the effects of treatment by curare in certain grave cases of epilepsy, since the effects of treatment whether by the bromides or by atropia are not so entirely satisfactory as to render all other methods superfluous. He employed the formula recommended by Künze, filtering the solution before injecting it—Curare, 0.5 gramme; aq. dest. 5.0 grammes; acid. hydrochlor. gtt. 1, digere per xxiv. horas, de infiltra. Of this solution, one-third is to be injected every five days; as a rule it neither causes much pain nor any noticeable reflex symptoms; in no case did it cause any toxic phenomena; still it is necessary to ascertain the trustworthiness of the preparation of curare before employing it. Two cases of hystero-epilepsy were not benefited by this treatment, whilst of thirteen cases of true epilepsy, the majority characterized as severe cases of old standing, six were not permanently improved, whilst three were completely, and, up to the present, permanently cured. Three other cases, although not cured, were distinctly improved, the attacks being interrupted for several months. One case is still under observation, and promises to be successful. Prof. Künze recommends that the treatment be given up if there be no sign of improvement after the fourth or fifth injection. (*Centralb. f. klin. Med.*, 1881; *Med.-Chir. Rundschau.*, October, 1881.) Dr. G. Ferraud sums up the recent results of treatment with bromide of potassium at the Salpetriere (Paris). The cases of eighty-nine female patients are analyzed as follows: 13 per cent. very greatly benefited; 15 benefited; 18 slightly benefited; 12 not benefited. Minimum daily doses of 5.6 grammes for women and 6.8 for men are recommended. Legrand du Salle continues to give the salt on six days of the week for the first three months after the fits have ceased for a year, and afterwards on three successive days in each week. Arsenic is found useful in acne produced by the bromide, and to avoid serious weakening of the memory coffee is ordered for all patients whose daily dose is more than 7 grammes. —*Cincinnati Lancet and Clinic*, July 15, 1882.

The Radical Cure of Hernia.—Schwalbe, of Margburg, read a paper on this subject at the Berlin congress of German surgeons, on May 31st, in which he recommended the already well-known method of injecting 70 per cent. alcohol into the neighborhood of the hernial sac, as entirely harmless and very effective, and he reported thirty cases in which a radical cure was effected. Occasionally it is necessary to repeat the injections very frequently, as many as one hundred and fifty having been used, especially when the horizontal position can not be retained; the hernia should be kept reduced during the treatment by a suitable truss. Schwalbe believes that this method is preferable to Heaton's, as in the latter the white oak extract, being less diffusive, must be injected directly into the sac.

Ranke stated that he had employed Schwalbe's method in more than one hundred cases, and was not very favorably disposed towards it: the injections are always very painful and often leave serious infiltrations. There was no doubt that in children it would hasten the normal closure of the ring. Gussenbauer had employed this method in six cases, in none of which had a complete cure resulted.—*Deutsche Med. Wochen.*, June 10, 1882.

The Symptomatology of Bright's Disease.—M. Dieulafoy lately called attention to certain symptoms of Bright's disease (parenchymatous and mixed nephritis), of which too little notice has, he thinks, been taken. The most important of them is frequency of micturition, a symptom which, although frequently associated with polyuria, may exist independently of any increase in the quantity of urine. In some cases the symptom is very troublesome; the bladder has to be emptied twelve or fifteen times a night, and twenty or twenty-five times in each twenty-four hours, and this although the total quantity of urine may not amount to a pint. This symptom Dieulafoy proposes to term pollakuria, and it may be manifested in three forms. 1. An early form may attend the commencement of the renal disease, of which it may be indeed the earliest manifestation and of considerable diagnostic significance. 2. A late form, which attends the chronic stage of the disease which has commenced acutely. 3. A form in which the symptom is attended with great pain and distress, and is accompanied by tenesmus and spasm of the sphincter ani, lasting from three to eight minutes. Another symptom is irritation of the skin. M. Dieulafoy asserts that it is met with in one-third of the persons suffering from "albuminous nephritis," whether interstitial, parenchymatous, or mixed, and that it is especially frequent in women. This symptom is also met with in different forms. Sometimes it has the character of ordinary pruritus, and may be thus the initial symptom of Bright's disease, preceding for months any other inconvenience. It has been explained by uræmia, and has been attributed to an excretion of urea by the skin, but in one of his cases the symptom was not present, although a large amount of urea was excreted by the skin. In other cases the itching is much slighter, and is described as resembling the sensation produced by the contact of a hair with the skin. The last symptom to which attention was directed is that which is described by patients as the "fingers going dead." It is a sensation of formication or cramp, accompanied by such pallor that the part looks altogether exsanguine. It may last half an hour or so, and then disappear entirely. Rarely both hands are affected, and when it is bilateral and partial the area is always symmetrical on the two sides. It appears to be due to a true vaso-motor disturbance.—*Lancet*, July 1, 1882.

Excessive Mobility of the Uterus.—Grassi (*Lo Sperimentale*, Jan. 1882) thinks that this condition is much more frequent than is generally supposed, and is often mistaken for version. By itself, apart from other possibly co-existing alterations, it may give rise to manifold sufferings which increase with the rapidity and extent of the motions to which the uterus is subjected.

Excessive mobility of the uterus may be congenital; it may occur in nulliparæ; but usually it is due to laxity of the supports of the uterus, attributable to one or more child-births. In consequence of this condition, coition may become painful, conception be rendered more difficult, and pregnancy suffer interruption during the first three months.

The treatment consists in toning up the system, hydrotherapeutics, etc., and the application of a well-fitting ring-pessary. The diagnosis is to be confirmed by the immediate benefit derived from the pessary.

The author emphasizes that the condition is a purely clinical one.—*Am. Journ. of Obstet.*, July, 1882.

BONY OCCLUSION OF BOTH POSTERIOR NARES.—DR. T. B. WILKERSON reports a case of congenital occlusion of the posterior nares by a bony septum, in a child six years of age, which he perforated by means of a new and ingenious instrument, a revolving trocar and curved canula, the drill attached to cable-screw wire; the latter being elastic, allows the handle of the trocar to be circularly rotated, whilst the curved canula remains stationary, the slit in the posterior under surface of the tube and pliability of the wire render the retraction and withdrawal of the trocar easy. The drill point protrudes beyond the end of the canula half an inch, length of trocar and canula about four inches, length of handle two and a half inches; without this instrument the operation would have been impracticable. A very satisfactory result was obtained.—*North Carolina Medical Journal*, June, 1882.

A CASE OF PARTIAL RESECTION OF THE TEMPORAL BONE.—At the meeting of German surgeons in Berlin, on June 1st, GLUCK stated that, after having opened the carotid canal fifteen times on the dead body, he finally had an opportunity to perform the same operation on the living subject. The case was that of a man who had suffered for seven years from otorrhœa from the left ear, who, after being exposed to cold, was attacked with violent headache, convulsions, coma, facial paralysis, and collapse, with severe hemorrhage from the ear. A diagnosis of suppuration on the petrous portion of the temporal bone, and corrosion of the carotid artery was made; after an appropriate incision through the skin, the mastoid process was carefully chiselled away and the dura mater exposed and incised, when thirty grammes of pus escaped. The seat of the hemorrhage was not detected: the patient died.—*Deutsche Med. Wochen.*, June 17, 1882.

INCONTINENCE OF URINE IN THE FEMALE.—DR. FRANK, of Cologne (*Centralb. f. Gynæk*, March, 1882), has planned and practised a new operation for the relief or cure of cases where the sphincter vesicæ has been so injured as to lead to incontinence. He points out this condition often exists after a fistulous opening in the bladder has been closed, and that such cases are very difficult to manage. He treats the urethra as one would an over-dilated rubber tube, by cutting a piece out of its circumference, so that less contractile power is sufficient to close it. A narrow strip is cut out of the whole length of the urethra, rather more tissue being removed at the seat of the sphincter. The sutures are not to be taken out till about the eighth day. A case is given where this method was successfully followed.—*Glasgow Med. Journ.*, July, 1882.

COMMUNICATION OF THE STOMACH AND INTESTINE WITH THE PLEURAL CAVITY AND A FECAL ABSCESS.—Dr. Tielmans reports a case of this character in *Arch. f. klin. Chirurg.*, occurring in a boy fifteen years of age, who was tapped for pyo-pneumothorax; cure resulted in five months.—*L'Abeille Méd.*, July 10, 1882.

GANGRENE OF THE BLADDER FROM RETROVERSION OF THE GRAVID UTERUS.—The last number of the *Archiv für Gynäkologie* contains an interesting article on the above subject, by DR. G. KRUKENBERG, of Bonn. He points out that cases of rupture of the bladder, and of gangrene of the bladder, from retroversion of the gravid uterus, are identical in their pathology. When gangrene of a portion of the vesical wall takes place, its peritoneal surface may be, or may become, adherent to neighboring parts, and in that case the gangrenous bit (or layer) may be cast off, entire or broken up. If no adhesion be present, and the bladder be subject to distention, its wall will give way at the weakened spot; or the separation of the slough may lead to perforation, even without over-filling of the bladder. Dr. Krukenberg has only been able to collect ten of these rare cases, and to these he has added one observed by himself. The practical conclusions which he draws from them are these: When the catheter has been employed and the uterus replaced before the sixth day, exfoliation of a portion of the vesical wall has never been observed. If regular catheterization is begun before the tenth day, rupture of the bladder need not be feared. When retention of urine persists longer than this, either gangrene or rupture of the bladder may supervene, rupture being the more frequent. Rupture of the bladder may also take place suddenly, from great distention of the bladder, or from efforts even most carefully made to replace the uterus. If gangrenous portions of the vesical wall are cast off, it should be an indication to abstain from attempts to replace the uterus (lest rupture of the bladder should take place), and to treat the case by the induction of abortion.—*Med. Times and Gazette*, July 8, 1882.

A MODIFICATION OF THE VAGINAL TOTAL EXTIRPATION OF THE UTERUS.—Freund's operation has been placed in the background by the vaginal method of total extirpation of the uterus, but even the latter is not free from difficulties; especially the ligation and separation of the first broad ligament are laborious and tedious. Experience shows that the second ligament is always more easily disposed of than the first, because the uterus is separated from the first broad ligament, and can be drawn in front of the external genitals. P. Mueller (*Centralbl. f. Gyn.*, No. 8), therefore, proposes to make the ligation and division of the first ligament as easy as that of the second by in some way splitting the uterus, either inverted or simply drawn downward, into two symmetrical parts in a vertical direction. Then each half with its ligament can be easily drawn down and the first ligament as readily tied as the second. Hemorrhage cannot be considerable, there being no larger vessels to be divided; moreover, the division can be effected so rapidly that in any event the bleeding cannot long continue, or the halves may be compressed manually or the ligaments rendered tense by traction or torsion until the ligature has been applied.

The author has not had occasion to test the value of his theory in practice, but hopes that some one of his confrères may give it a trial.—*Amer. Journ. of Obstet.*, July, 1882.

RESECTION OF THE STOMACH.—At the Congress of German Surgeons in Berlin, in the discussion on this subject, it appeared that out of eighteen cases which had been operated on for resection of the pylorus, only three yet lived. Prof. Richter thought that a much less dangerous operation in the case of fibrous stricture would be to make a duodenal fistula through which the stricture could be dilated with bougies. To this Rydygier replied that all of the three cases on which he had so operated had died. Billroth said that only one in fifty or sixty cases of carcinoma of the stomach was suitable for operation, and the first case in which he attempted the resection the tumor proved to be a myxoma, and the operation was abandoned. He had made as many as twenty exploratory incisions in as many cases, and at no time with a fatal result.

Gussenbauer was of the opinion that the cases of fibrous stricture were much more favorable for operation than carcinomata.—*Deutsche Med. Woch.*, July 1, 1882.

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SOME TROPHIC LESIONS.

THAT certain areas of nervous matters have an intimate relation to the nutrition of parts innervated by them, is evident. Irritation or disease of such "trophic centres," as they are called, is followed by wasting or degeneration. Although not all of such supposed centres have been accurately defined, the facts warrant the location of one in the fourth layer of the cerebral cortex, one in the anterior cornua, and one in the gray matter of the posterior columns of the spinal cord. The special peculiarity of the anatomical elements in these trophic centres is the presence of the multipolar ganglion cell.

There appear to be trophic fibres as well as centres, or at least sensory fibres endowed with a trophic function. Injury or disease, even irritation, of these fibres, quickly affects the nutrition of the parts in anatomical association with them. The great fifth nerve offers us an admirable example of this endowment. It is well known that irritative or destructive lesions of the trigeminus will be followed by inflammation of the eye, ulceration of the cornea, eczemas and herpes of the skin of the face, etc. The history of these facts regarding the trophic functions of the fifth is interesting as showing the changes of opinion which have taken place. When the influence of the nervous system on nutrition came to be known, the condition of the eye following division of the fifth nerve, was referred to the injury done to the trophic fibres. Then came a period of doubt, finally of denial. It was shown—it was supposed—that the disease of the eye which occurred under these circumstances, was the result of mechanical causes; that particles of dirt adherent to the cornea and other injuries brought on the mischief witnessed, and that if the lids were sewn together to protect the eye properly, no lesions of any kind followed division of the fifth. For a time this demonstration was regarded as final, and the fifth ceased to be regarded as a trophic nerve. Recently, however, the subject has been examined afresh, and new and more accurately conducted experiments have demonstrated that no amount of care in protecting the eye from injury will prevent destructive lesions of this organ following injury to the fifth nerve.

The late war furnished numerous examples of the results which succeed to injury of the trophic nerves, and much of the information on this subject, now current, had its origin in the admirable monographs which record these observations. Experimental evidence has not been wanting, and the clinical experience is constantly enlarging, so that, now, trophic lesions from injury or disease of the nerve-trunks are amongst the most obvious of pathological facts.

The spinal trophic centres have been localized by disease. It was first observed that in some cases of paraplegia, rapid wasting of the paralyzed muscles and decline in their faradaic excitability occurred soon after the onset of the disease; and in other cases of paraplegia, no change ensued in the condition of the muscles. It was subsequently found that in the former the disease involved the anterior cornua of the spinal cord, especially of that part containing the multipolar ganglion cells. Several diseases exhibit these changes in perfection—notably *poliomyelitis anterior acuta* (infantile paralysis), *glosso-labio-laryngeal paralysis* (chronic bulbar paralysis), *progressive muscular atrophy*, etc. As disease of this group of cells in the anterior cornua has for its constant result wasting of the paralyzed muscles, the trophic centre is accordingly located there. It is a curious fact, however, that certain osseous, and also cutaneous, lesions proceed from disease of the gray matter in the posterior columns of the cord, about the apparent origin of the posterior nerve-roots. Some of the most interesting trophic lesions, having their origin in this part of the cord, occur in the course of *posterior spinal sclerosis* (progressive locomotor ataxia). Changes in the joints occur not unlike those which are due to some kinds of rheumatism. Facts like this strongly support the theory of the nervous origin of acute rheumatism. In locomotor ataxia, the changes are profound; the joints are deformed by alterations in the bones themselves, and luxations readily occur; the animal matter of the bones decreases, and hence fractures take place with little violence. A similar change in the bones is now known to occur in the chronic insane, and in this fact is the explanation of the fractured ribs which are so often

found after the death of troublesome subjects. In advanced cases of tabes, fractures occur spontaneously, by muscular action, merely, without any violence, and a number may happen in the same individual, as in the case narrated by Charcot of a tabetic woman who suffered several times dislocations of the hip and shoulder, and fractures of the extremities, dying at last by the rupture of an aneurism of the aorta. We should not, of course, fail to mention the fact that the first account of spontaneous fracture in the subjects of progressive locomotor ataxia appeared in the *American Journal of the Medical Sciences*, July, 1873, from the pen of Dr. Weir Mitchell.

The slowly-developing morbid alterations consecutive to lesions of the gray matter about the posterior roots, offer a strong contrast to those rapid changes which take place in the muscles when the multipolar ganglion cells of the anterior cornua are affected by disease. There is, as would indeed seem to be necessary, a constant ratio in the progress of the centric and peripheric alterations. In infantile paralysis the mischief done in the nerve-cells is accomplished in a few days; in locomotor ataxia the gelatiniform degeneration of the posterior columns occupies as many, or more, years. The whole round of an acute herpes zoster will occupy about two weeks, whereas certain pigment changes, as in a form of vitiligo, may be distributed over many years.

Besides those trophic affections in which an immediate relation between the central and the peripheral disease can be traced, there are, doubtless, many of reflex nature which cannot be directly connected. We know, of course, what decided vascular changes are effected by reflex irritation, but the mistake should not be made of confounding vaso-motor with trophic affections. A good illustration of a reflex trophic lesion is afforded by the ulcer of the duodenum, caused by a burn of considerable extent on the chest or abdomen. As all the world knows, the relation between these two conditions is, by many, regarded as accidental rather than causative, and hence its pertinency as a fact in this connection may be denied. There is, however, a causal relation, of the reflex kind, between a burn of the surface and a low form of pneumonia, which must be admitted to exist.

DR. KINLOCH'S CASE OF FATAL CHLOROFORM NARCOSIS.

THE announcement of another death from chloroform is of such frequent occurrence that it no longer excites any other remark than, why was not ether given? Notwithstanding the formidable list of fatal cases from chloroform narcosis, there are many physicians who cannot bring themselves to use any other anæsthetic. Chloroform, compared with other anæsthetics, notably with ether, is so much more pleasant to inhale, so much more prompt in action, and in some other respects so much more desirable, that these physicians are disposed to adhere to their favorite, rather than encounter the discomforts of other agents which may seem to be safer. The question of safety must, after all, be the prime consideration. Is ether so distinctly safer than chloroform that it must be preferred, notwithstanding it is far less agreeable? The comparison of an immense number of exactly parallel cases can alone decide this question. With the increasing use of ether, the number of deaths caused by it becomes greater. If yet greatly less than those caused by chloroform, it must be remembered that ether has been used in a considerably less number of cases. That the condition of anæsthesia is in itself a condition of danger, irrespective of the agent used to induce it, remains a fact, in spite of the improvements in the technical processes. To suspend the functions of animal life, and at the same time to enfeeble the organic functions, induces a state of such constraint, that little more is required to end life. Although there are differences in the toxic activity of the various anæsthetic agents, it yet remains to be demonstrated that ether is distinctively, under all circumstances, an absolutely safe anæsthetic. Assertions in regard to the superior safety of ether are abundant enough, but these are not demonstrated facts. For our own part, we prefer ether, not for itself, but because a general conviction exists that it is safer, a view in which we share, although the proof is not yet conclusive.

Dr. Kinloch, having used chloroform for years without an accident, and preferring its action to that of any other anæsthetic, was warranted in continuing to employ chloroform, provided there was suitable care exercised in the selection of the subject and in the administration of the vapor.

The method of inhalation used by Dr. Kinloch is as old as the practice of modern anæsthesia. An open cone formed out of a towel, and large enough to cover the mouth and nose, has been employed in millions of cases without accident. It was first proposed by Simpson, and has been used more than any other inhaler. Notwithstanding the antiquity of this practice, and although sanctioned by usage, we must condemn it as unsafe, as it is unscientific. When such a cone is placed over and above the nose and mouth, although several inches removed, the vapor of chloroform displaces the air, and hence, in a little while, only chloroform vapor is inhaled. If the rule, to use an admixture of chloroform vapor and air, in which the former is not in greater proportion than 3½ per cent., is a sound one, it is clearly violated in this arrangement. When the cone is first placed in position, after

being charged with chloroform, or after any addition of the anæsthetic, the air supplied to the patient is composed for the most part of chloroform vapor. Now, as the density of chloroform vapor is about four times that of atmospheric air, it is clear that the latter must be displaced more or less completely—probably for a time entirely—when the inhalation is thus conducted. Therefore, although Dr. Kinloch pursued the most usual mode of administering the anæsthetic, we regard the method as in a high degree unsafe, since it is necessary in the giving of chloroform to secure the admixture of air in right proportions. The proper proportion of the anæsthetic vapor to the air is three and a half per cent., and it is in the highest degree important to comply with this rule in the administration of chloroform. That Dr. Kinloch may have failed to secure a sufficient admixture of air, is quite possible, but there is an enormous experience to justify and uphold the method he pursued.

The measures of resuscitation practised have abundant sanction in professional usages. We venture a criticism on one point—the subcutaneous injection of brandy. This practice, now so common, is certainly improper in the case of cardiac failure from chloroform, ether, chloral, and other agents, derivatives of alcohol. Whilst all of these derivatives have peculiarities of their own, they have one effect in common—they all, after a period of excitement of longer or shorter duration, cause cerebral depression, and brandy is, so far, synergistic to chloroform vapor. As in this case, the heart and lungs labored, the superficial venous trunks being greatly distended, the subcutaneous injection of amyl nitrite, or of atropia, would have served a more useful purpose. We make these suggestions in the interests of those who may, at some future time, experience a similar misfortune, and not as a criticism of Dr. Kinloch, who, in the method of resuscitation, as in the administration of the anæsthetic, acted in accordance with the general professional experience. We are also bound to admit, that the practice of Dr. Kinloch may be supported by many more than will approve our own suggestions.

It is gratifying to note that the South Carolina Medical Society have ranged themselves on the side of Dr. Kinloch against the enemies who seek, in such a misfortune, to ruin the physician. It appears that the unfortunate case has found a hearing in the newspapers, and the physicians connected with it are judged with that severity which only malice, guided by the most profound ignorance, can suggest, and that which in itself is but an accident, which may happen to the wisest and most prudent medical man, is made to wear the aspect of an unprecedented blunder. It is, therefore, with real pleasure that we read the loyal and manly words of the committee appointed to draft resolutions to express the sentiments of the physicians composing the South Carolina Medical Society. The members of the medical profession may usually be depended upon to support a colleague if merely unfortunate. Nor is this only what Mr. Spencer calls "professional bias." They have sympathy for misfortune, and an honest detestation of those misrepresentations that would injure, if not destroy a reputation which is at the same time the evidence of work well done, and the promise of future prosperity. We unite with the profession of South Carolina, and of the whole country, in extending sympathy to Dr. Kinloch for this unpleasant accident, and for the injurious criticisms to which he has been subjected.

THE CHEYNE-STOKES RESPIRATION.

A CORRESPONDENT calls our attention to the term "Cheyne-Stokes breathing" as in frequent use, but in regard to which, readers are generally in the dark as to its meaning. He has looked for information on the subject through the ordinary sources of knowledge, and now asks our aid in clearing up the mystery. We enter on this task the more readily, since we have offended by the use of this mysterious phrase, and because it is a topic of interest apart from the apparent difficulty of its explanation.

The phrase—Cheyne-Stokes respiration—means, of course, the kind of breathing described by Drs. Cheyne and Stokes. The first reference to the peculiarity was made by Dr. Cheyne, so long ago as 1816. Dr. Stokes recalled this fact to the attention of the medical profession, in his classical work on diseases of the heart and aorta, thirty years afterward. He also contributed some additional facts, and hence his name is rightly honored by association with Cheyne's in this suggestive phrase—Cheyne-Stokes breathing.

The condition signified by this phrase is a peculiar irregularity of breathing, associated with certain morbid conditions. Not all kinds of irregular breathing can be so designated. Indeed, the term is already mis-used, and there is a growing disposition to include under it all kinds of breathing associated with irregularity and sighing. As described by Cheyne and afterwards enlarged upon by Stokes, the kind of respiration to which this phrase is properly applicable, consists in the following phenomena: A pause in the breathing—a complete suspension in the respiratory acts for a period of time, during which breathing might occur several times in the normal manner; then the resumption of respiration very feebly and slowly, and a gradual and progressive increase in the number and depth of the respirations, until the maximum is reached; and then again a gradual and progressive diminution, in the same order, in the number and depth of the

respirations, until a pause occurs. Thus the movements of respiration oscillate; from an extreme in which all the muscles are laboriously engaged, to a minimum in which the respiratory organs seem hardly to act at all, and then a period of repose or of apnœa of longer or shorter duration; to be followed again by the gradual rise to the maximum. During this time of cessation of breathing the arterial tension falls, the pulse quickens, the pupil contracts, there occurs a lateral conjugate deviation of the eyes, the face becomes pale, and the mind—the intellect and the general sensibility—are for the moment obtunded. On the other hand, during the period of maximum activity in the respiration, the arterial tension rises, the pulse slows, the pupil dilates, and more or less cyanosis of the face and extremities appears.

The morbid states with which Cheyne-Stokes breathing is associated consist of certain chronic affections of the heart and arterial system. Stokes laid much stress on it as a sign of fatty degeneration of the heart. It has been observed in cases of aortic insufficiency, especially when caused by the calcareous deposits of senility. The first case described by Dr. Cheyne was one in which atheroma of the vessels led to attacks of cerebral hemorrhage. Chronic arteritis, arteritis deformans, and cardiac lesions arising under the same conditions, are the chief factors. The irregularity of breathing which belongs to tubercular meningitis has been said to have the Cheyne-Stokes type, but there is merely distant resemblance—by no means identity. The irregular respiration occurring in the course of the nervous symptoms of chronic albuminuria approaches more nearly in characteristics to the Cheyne-Stokes breathing; but here again there is resemblance, but not identity.

Cheyne-Stokes breathing is of evil omen, as a rule. This view of its prognostic value is a necessary corollary from its pathogeny. Due to changes in the arterial tunics, which interfere with the normal supply of blood to the medulla, the respiratory centre functionates in a spasmodic manner. The special rhythm of the respiration, which it is the office of the respiratory centre to maintain, is, under these circumstances, perverted. The irregular evolution of the rhythmic force signifies the onset of fatal symptoms, for the damage done to the walls of the vessels must continue in an increasing degree to interfere with the circulation in the medulla. The numerous examples of irregular respiration, bearing a more or less close resemblance to the genuine Cheyne-Stokes breathing, have a prognostic importance determined by the associated and causative lesions.

THE SUMMER CHARITIES.

No one feature of our civilization is more striking than its charities. The lame and the halt, the sick and the wounded, and even the incurable are cared for with a kindness and tenderness unknown to heathenism. Of all these, however, the latest developed are in many respects the most remarkable. Hospitals are charitable necessities, but the summer charities, if we may so call them, are, as it were, charitable luxuries.

One of the earliest was the Children's Seashore House at Atlantic City, and any one who has seen the results in health and happiness there attained, must have felt that it was a happy thought that led to so much good. Similar in idea, but reaching a different class, is the Seaside Home for Invalid Women. The physicians whose poor patients have been at either of these homes, appreciate to the full the boon conferred upon them. To the weary, over-worked shop girl the cottage of the Women's Christian Association at Asbury Park, well named Sea Rest, is open, and hundreds enjoy there a week or two of restful, refreshing holiday. All of these charge merely nominal rates, made possible by the gifts of generous friends, and thus make them available for any of the honest, hard-working, and thrifty, whose purses, nevertheless, would not otherwise allow of such an expense.

Another similar form of hygienic charity, and, in its way, quite as delightful, are the various excursions especially for children, who in our close cities suffer daily, though often unperceived, martyrdom. These are often only for a day, it is true, but the good done by a single day's outing to a poor little city boy or girl, who has scarcely ever seen a green field or an unstunted tree, is greater than we think. It is to such a child an immense event, talked about for months afterwards—well-nigh a perennial pleasure, as well as a physical boon. The St. John's Guild and other similar societies are doing good service by such excursions. The Children's Country Week Association, and the *Tribune's* Fresh Air Fund, aim at a longer holiday, and are doing a vast deal of good, how much in the case of the former we have but lately pointed out.

Apart from all the good moral influences attached to such charities—and no one can read the letters to the *Tribune* without seeing that it is indeed twice blessed, and blesseth him who gives as well as him who takes—they are, from the physician's standpoint to be commended and fostered. Of course, harm is occasionally done by over-play or other indiscretions, but the healthful influences far outnumber the harmful. Many a life has been saved, and many another one prolonged and brightened, by the blessed summer charities.

TRANSACTIONS OF STATE MEDICAL SOCIETIES.

It is usually the case that the annual volume of State medical society transactions is delayed in passing through the press until the papers have lost their freshness, and the interest in their contents is dissipated, and this delay, strangely enough, is generally the fault of the contributors themselves, but if the society's welfare did not thereby suffer, perhaps no one would complain. The Michigan State Medical Society has just set a good example by issuing its annual volume of three hundred pages in a little over two months after adjournment, and we congratulate the Society and its efficient Secretary, Dr. George E. Ranney, of Lansing, upon being the first in the field with this year's proceedings.

SOCIETY PROCEEDINGS.

AMERICAN OTOLOGICAL SOCIETY.

Fifteenth Annual Meeting, held at Lake George, July 25, 1882.

(Specially reported for The Medical News.)

The Fifteenth Annual Meeting of the American Otological Society was held at the Fort William Henry Hotel, Lake George, N. Y., on Tuesday, July 25, at 10.30 A.M., the President, Dr. J. Orne Green, of Boston, in the Chair.

There were present twenty-nine members, and four by invitation, who were requested to participate in the discussions. Four new members were elected in the Society, and the names of five candidates for membership were referred to the proper Committee.

Morning Session.—After transacting the ordinary routine business, the Business Committee of the Society reported the bulletin of papers to be presented, in the following order:

Dr. O. D. Pomeroy, of New York, read a paper on

DRAINAGE TUBES IN SUPPURATIVE OTITIS MEDIA.

In children it is often observed that in suppurative otitis media the meatus becomes so narrowed that it is difficult or impossible to cleanse or treat the ear. Incisions of the meatus to enlarge the calibre had failed; incisions behind the auricle to open into the tympanum had also failed, when a small tube of India-rubber was introduced into the meatus. When the canal was nearly closed it became necessary to pass a probe through the rubber tube, catching it upon its end and stretching it, so that its size was nearly reduced to that of the probe, in which condition it could easily be passed in the canal well down to the tympanum. When in position the rubber was allowed to resume its natural form, which it accomplished by drawing itself into the canal when the probe was withdrawn. After wearing these for two or three days, larger tubes became necessary, which often could be introduced without the aid of a probe. If granulations or polypus of the tympanum required treatment after the canal became dilated, the tubes were removed for this special treatment, after which they were returned. The reason for the successful treatment by these tubes is, 1st, the protection afforded the walls of the meatus from the aqueous discharge; and 2d, the gentle pressure of the elastic and dilating rubber tube. By this pressure granulations or polypi rapidly disappeared. Cases which had defied other means of treatment rapidly recovered in three to six weeks with very few relapses. The best instrument for the introduction of the tubes was a cylindrical probe with four deep notches made in its extremity. A few illustrative cases were given.

Dr. McKay, of Wilmington, Del., asked if the cases had been followed up, and if relapses had occurred.

Dr. Pomeroy answered that relapses had occurred, but less than with other methods of treatment. He purposely avoided making holes in the side of the tubes, so as to isolate the walls of the meatus entirely from pus.

Dr. Orne Green praised the ingenious way proposed to produce drainage, pressure, and dilatation. He had used pledgets of absorbent cotton with glycerine, with good success, though the action was slow. The proposed method offered great advantages on account of its roundness, its elasticity and smoothness. In the treatment of such cases, however, drainage was not the most important; the chief aim to be desired was dilatation and pressure.

Dr. Pomeroy said that the irritation of the walls of the meatus depended upon pus, hence drainage became a very important factor in the treatment.

Dr. Seely, of Cincinnati, inquired what length of time it required to bring about dilatation.

Dr. Pomeroy answered, from two to six weeks, while every two or three days larger tubes could be employed.

Dr. Seely had not had special difficulty in treating cases of narrowing of the meatus by the cotton and probe. He felt certain that swelling of the meatus was due to the irritating effect of the discharge.

Dr. Howe, of Buffalo, said that he fully appreciated the advantages of the method as a means of dilating the canal, when contracted as described in the paper. He did not understand how such lateral pressure upon a polypus was any better than the usual methods of treating these growths. Immediate removal certainly produced the desired effect much more rapidly, and in doing so we gain also the enlargement of the canal.

Dr. Knapp, of New York, has used for the purpose of preventing retention of pus and closing of the canal, perforated flexible silver tubes with a flange. They are easily introduced and removed, cleansed and renewed. They may be worn for hours, days, or weeks constantly or with intermissions, according to circumstances.

Dr. Kipp, of Newark, has found that, in cases like those spoken of by Dr. Pomeroy, deep longitudinal incisions will remove the swelling of the external canal usually very speedily.

Dr. A. Mathewson, of Brooklyn, reported

A CASE OF ABSCESS OF CEREBELLUM, FOLLOWING OTITIS MEDIA MONTHS AFTER APPARENT CURE.

A case of chronic suppurative inflammation of middle ear, with mastoiditis, in a child of eleven years, apparently perfectly and permanently cured for months, when, after indiscretion in diet, vomiting occurred and other symptoms, which seemed at first due to gastric and hepatic disorders. After two weeks, during which there were no marked or certain symptoms of brain complication, the child died in convulsions, and an autopsy revealed abscess of cerebellum. There was pus between dura and tegmen tympani, but the bone was not carious. The ear and mastoid seemed healthy.

Dr. Kipp thought that the value of ophthalmoscopic examination in cases of suppuration of the middle ear was not yet fully appreciated. Since the publication of his paper on this subject, he had seen several cases of purulent otitis media, in which double optic neuritis was present, and, as far as he could now remember, death occurred in all of these cases, the operation for perforation of the mastoid process having been refused. Although absent in many grave cases of this kind, the

presence of optic neuritis must remove all doubt that the brain or its membranes are involved in these cases.

DR. ORNE GREEN inquired if there did not exist any symptoms, like headache, before the attack came on, which might have been indicative of some occult trouble in the brain.

DR. MATHEWSON answered, that no such symptom occurred, and he congratulated himself that the patient had been getting on so perfectly well.

DR. ORNE GREEN then mentioned a case where the patient had appeared to be entirely well from his ear trouble for six months; only moderate headache would appear intermittently. At the end of that period, sudden death occurred, caused, as he believed, by rupture of an abscess of the brain. He asked Dr. Mathewson if there was any apparently normal brain substance between the abscess and the bone.

DR. MATHEWSON replied there was.

DR. KNAPP observed that, since Dr. Kipp drew the attention to the occurrence of optic neuritis, dependent upon suppurative otitis, he had ophthalmoscopically examined every case of severe otitis purulent media that had come under his observation. He found that this combined occurrence was quite rare; but in some cases it is very marked and important, as in acute cases of suppuration with internal mastoiditis. It is found more pronounced in the eye of the same side than in the other. After the opening of the mastoid, the retrogression of the optic neuritis went *pari passu* with the progress of the recovery from the ear disease. He related a case in illustration of which he said: when the mastoid was opened, and a large quantity of pus evacuated, a place at the cranial side of the cavity was found soft on probing.

DR. C. S. MERRILL, of Albany, reported

A CASE OF ACUTE MIDDLE-EAR INFLAMMATION, WITH DEATH ON THE FOURTH DAY, FROM EXTENSION OF THE DISEASE TO THE BRAIN.

A man, thirty-two years of age, consulted Dr. Merril on November 7, 1877, complaining of a sense of fulness in the right ear and impaired hearing. The membrana tympani was found somewhat congested, otherwise normal. H. D. watch R. 2½″; L. 7′. Politzerized the patient two or three times, which increased hearing of watch to 4″, and further advised application of a leech to inner surface of tragus, and one to the mastoid, close behind the auricle, and daily Politzerizing. He did not see the patient again till the 10th; then learned that the leeching had entirely relieved the condition, so that on the next day (8th) the fulness had disappeared and hearing had become normal, and the patient went to his office, contrary to the orders of his physician. At 5 A.M. of the 9th, he was seized with severe pains, for which anodynes were administered, and on the following day Dr. Merrill was called in to see the case again. He found the patient suffering from severe meningitis; pulse, 160; temperature, 103½°; respiration, 28; delirious most of the time; membrana tympani bulging and greatly inflamed, as were the deeper portions of the auditory canal. A free incision of the membrana tympani, which was unusually thick and firm, evacuated a large amount of pus. The Eustachian catheter was used, and air passed freely through the incision. At noon of the 11th, the local inflammation of the ear greatly subsided, but the meningeal inflammation increased in spite of all treatment. Coma and death occurred at 6 P.M. Autopsy, eighteen hours after death: Evidences of meningitis and pus were found over the region of the petrous portion of the bone. There had been perforation through the roof of the tympanum, and underneath the dura were found a few drops of greenish-looking pus. The perforation of the tegmen tympani consisted of two or three small openings. There was no necrosis. No evidences of inflammatory product in the bone itself.

DR. NOYES inquired if the patient had ever suffered from vertigo.

DR. MERRILL replied he had never before complained of his ears, but at the autopsy the membranæ tympani were found very thick, and he had no doubt they had always been so, so that the existence of former ear disease was not improbable.

DR. PROUT spoke of the necessity of early incisions, as proved by the case reported.

DR. THEOBALD, of Baltimore, thought the case described by Dr. Merrill one of those in which active constitutional treatment was indicated. The liberal administration of calomel might have given the patient a chance of recovery. In reply to Dr. Merrill's question: "Could anything have been expected from it after the manifestation of such severe cerebral symptoms as described?" Dr. Theobald referred to the case reported by Dr. Buck in his work upon the ear, where the patient was in a comatose condition from meningitis supervening upon acute middle ear inflammation, and yet the liberal administration of calomel with inunctions of oleate of mercury was followed by rapid recovery. He also mentioned cases of his own recently published, which illustrated the good effect of this treatment under such circumstances.

DR. POOLEY, of New York, asked if Dr. Merrill thought it was good practice to inflate in acute and subacute inflammation of the middle ear.

As joining the discussion on this and the preceding papers, DR. READ J. MCKAY read a short paper on

AURAL POLYPUS, FACIAL PARALYSIS, MASTOIDITIS, AND CHRONIC MENINGITIS, WITH RECOVERY FROM THE TWO LATTER.

A case of a man, aged 22 years, who had been suffering seven or eight years from a running from the left ear, the result of a blow with the fist received eight days before the occurrence of pain and discharge from the ear. Lately there had been occasional bleeding. Examinations revealed the existence of a polypus, nearly filling the auditory canal, which was removed with Blake's snare, and the stump touched with a ʒij sol. of nitr. arg. Local treatment: instillations of sol. zinc. sulph. and acid. carbol. after syringing the ear. This treatment was persisted in for some time without removing entirely the granulations. The application of nitr. argent. produced considerable pain. He ceased coming for some time, and when he returned five months after, stated he had suffered from gastric fever. There was then left facial paralysis and continued pain in the left ear and the left side of head, relieved somewhat by the application of warm water and ʒij sol. arg. nitr. Four weeks later the patient reappeared, having been treated in the mean time by his family physician for "malarial neuralgia" for which quinia was freely administered. He looked very pale and weak, left mastoid swollen and tender. Leeches afforded prompt relief, and they were repeated ten days later; there remains constant pain in the head, with such continuous nausea and frequent vomiting that he could not retain nourishment. This was finally stopped by hypodermic injection of one-third grain of morphia. Ophthalmoscopic examination revealed the presence of well-marked left optic neuritis, and congestion of right optic disk. Minute doses of calomel were given, one-tenth grain every few hours, until slight ptyalism occurred. A gradual change for the better then took place, pain and tenderness over the ear and in the head disappeared, the swelling of the inner extremity of the meatus decreased, vision improved, and optic neuritis subsided. But the facial paralysis still

continued, also the discharge from the ear, and the granulation tissue could not all be removed. The question arises in his mind, when optic neuritis is found in these chronic aural cases with the persistent pain, usually indicative of meningitis, whether the optic neuritis is due to meningitis alone or to meningitis with brain disease.

Dr. E. E. Holt presented a paper on

BOILER-MAKERS' DEAFNESS AND HEARING IN A NOISE.

The opinion advanced by Dr. Holt upon "boiler-makers' deafness" and "hearing in a noise," was based upon the examination of forty men from the shops for making steam-boilers at Portland, Maine, and of all those who made the claim that they could hear better in a noise, amounting in all to over one hundred cases that had been examined, the investigation showed that the deafness incident to the boiler-makers was due more to the effects of the occupation upon the conducting apparatus of the ear than to the perceptive parts of the same organ, since they heard the tuning-fork, as a rule, as long or longer than the normal ear, even with the external auditory meatus closed. All men engaged in this occupation become more or less deaf, the degree and length of time elapsing before this occurs depending largely upon the tendency of the middle ear to catarrhal inflammation, which was excited by constant movements of the ossicles, and which, affecting the delicate joints, thereby producing anchylosis, was the cause of the deafness. In these and in other persons, who made the claim that they heard better in a noise, the apparent phenomenon was due to the more or less anchylosed condition of the ossicles, whereby more or less of the sounds given off in any noisy place were not received, constituting the deafness, and when the voice was raised, as it was invariably in such places, the sound produced by it was conducted by the sound transmitting apparatus with less confusion than by the normal ear, in which the ossicles must be in a to and fro movement, or else the innumerable noises would not be heard, and there would be no confusion of sounds.

Dr. Pomeroy inquired if the sound could not be muffled by putting cotton in the ear.

Dr. Holt replied that this only made the ear more sensitive.

Dr. Pomeroy remarked that if Dr. Holt's theory should prove true, it would change entirely the pathology of the disease in question.

Dr. Brandeis has had experience diametrically opposite from that of the author. He is professionally connected with large iron works, where nearly all the workmen are affected with more or less difficulty of hearing. This, in his opinion, is not due to the great noises, but to the draught and exposure to great heat and cold, in consequence of which nearly all are affected with diseases of the naso-pharynx, which extends to the tubes and tympanum, as well as the ossicles and membrana tympani. Owing to the chronic catarrhal condition, we have complete or partial anchylosis and thickening of the drum-head, which renders them less susceptible to the impact of sound waves. In a noise the impact of sound waves is more forcible, and consequently we will have vibration of the conductive apparatus which transmits the sound to the labyrinth. The voice is not elevated in proportion with the increased noise, and therefore the betterment in hearing can only be attributed to the increased movements of the parts acted upon.

Dr. Theobald mentioned having met with cases in which the tuning-fork, when placed upon the *vertex*, was heard louder in one ear, and then when placed upon the forehead was heard louder in the opposite ear. He had not been able to explain this result.

Dr. S. Theobald presented a paper on

COMPLETE CLOSURE OF BOTH EXTERNAL AUDITORY CANALS FOLLOWING CHRONIC OTORRHŒA.

Patient, 13 years of age, had an attack of scarlet fever when 4 years old, which left her with a purulent discharge from both ears. After it had existed for several years, the running ceased after the breaking out of an eruption on the head, as the parents stated, but deafness persisted. The occurrence of pain in the right ear led the parents to seek professional advice. Both auditory canals ended in a cul-de-sac, 2 cm. deep on the right side and 1.7 cm. on the left. Auricles normally developed, and outer half of the auditory canals presented the normal appearance, but in place of reaching to the tympanal membrane, each canal ended abruptly a little beyond the extremity of the osseous meatus in a smooth, firm, concave floor, covered with thin integument, continuous with and similar to that lining the outer portion of the meatus and presenting to the probe the unyielding resistance of a thick bony septum. Hearing greatly impaired, but the patient was not profoundly deaf. This condition has persisted more than ten years with no apparent change. From another case, recently under observation, he believes this condition to be due to periosteal thickening.

The discussion of this paper was postponed to the afternoon session, and the Society then adjourned to 4 P. M.

Afternoon Session.—The second session was opened by the President at 4 P. M.

After the ordinary business was transacted Dr. Theobald's paper was discussed.

Dr. Pooley had seen a case similar to the one related by Dr. Theobald. The closure, however, was only on one side. The obstruction in the canal was bony and covered with common integument. It was the final result of a long-continued otorrhœa and gave the patient no inconvenience. She came on account of a purulent otitis with extension to the mastoid on the other side, which terminated fatally. This case was published some years since in the *New York Medical Journal.*

Dr. Kipp thought that cases of bony occlusion of the external canal from otorrhœa were not as rare as the author seemed to think. He had lately had a case of this kind in a young girl in whom the canal was occluded by a bony structure covered with skin. He made a crucial incision in the skin and tried to perforate the bony structure with a drill, but failed. There was purulent inflammation of the middle ear on the other side, but the canal was of normal dimension.

Dr. H. Knapp read a paper on

THE TREATMENT OF AURAL POLYPI.

It is easier to remove large polypi from the ear than small ones, and they are much less likely to relapse. The reason is that large polypi invariably contract at their base, and become pediculated, and the narrow pedicle can be easily snipped off. The growth of a polypus can be easily demonstrated in the cases where, for instance, after squint-operation, a polypoid growth springs from the wound in the conjunctiva. Growing at first with a broad base, they are often treated with nitr. arg., only to become more irritated, while a little patient waiting may give a chance for removal of the growth by cutting its thinner pedicle with scissors, and no after-treatment but cleansing the eye is needed. The same refers to the ear, and a case, illustrative of the bad effects of removal of a small growth from the ear was given, where finally treatment was abandoned for more than a year, then to be followed by a most easy evulsion of a large polypus with thin pedicle. Dr. Knapp uses in order of frequency Hinton's forceps,

Wilde's or Blake's snare, Politzer's ring-knife, and O. Wolf's sharp-spoon. He uses by preference the forceps, and believes this to be free from the danger commonly attributed to it, because he does not resort to evulsion, before a pedicle is formed. Even if a polypus originates from the membrane lining the ossicles, the bone is probably carious, and its removal may be more an advantage than otherwise, and that a polypus can originate in the membrana tympani itself, he is not ready to admit, on account of the structure of that membrane, which resembles that of the cornea. For the treatment of smaller polypi or the roots of larger ones he uses alcohol and boracic acid, and finds that not only the abundance and offensiveness of the discharge is most effectually controlled, but also that the swollen mucous membrane shrinks more than by anything else. Frequently the alcohol contracts the polypi in such a way that they project distinctly and can easily be removed. His chief object in the treatment is: abstinence from repeated cauterizations, alcohol treatment, non-interference with granulations with a broad basis until they become pedunculated, and finally evulsion.

DR. THEOBALD stated that, after trying various applications to prevent the return of aural polypi, he had for some time placed chief reliance in a mixture of equal parts of boracic acid and oxide of zinc. He also mentioned that not long since upon traction with forceps upon a small polypus the malleus was drawn forth with the polypus, which was attached to it, but no evil effects resulted.

DR. POMEROY is convinced that no amount of cauterization will prevent the return of the growth. He is pleased with the results obtained in his practice from the use of the forceps.

DR. JOHN GREEN, of St. Louis, is in favor of revulsion, after changing the character of the polypus, for which he uses chromic acid applied directly to the polypus.

DR. KIPP stated that his experience with alcohol was very similar to that of Dr. Knapp. He, too, had come to the conclusion that in most cases, when the symptoms were not threatening, it was best to delay the removal of the growth until a pedicle had formed.

DR. BRANDEIS remarked that the leading indication in the treatment of aural polypi is the radical destruction of the base or roots. For this he preferred the galvano-cautery. He did not rate boracic acid very highly, and believed it only of service as boro-glycerine, and then it acts simply as an antiseptic.

DR. POOLEY thought that the evulsion of polypi with forceps was apt in some cases to set up an irritation which would extend to the brain, and related a case of his own which terminated fatally.

DR. NOYES regarded evulsion as perfectly safe and judicious when the polypus was developed from the external auditory canal, but believed it unsafe if it sprang from the tympanic cavity, when he prefers the snare. He uses nitric or chromic acid less than formerly. He uses boracic acid quite frequently now, and packs it in so as to completely fill the canal.

DR. PROUT stated that his experience with alcohol and boracic acid coincided largely with that of Dr. Noyes, but found that alcohol caused as much pain as any other applications. He thinks the advantage of the boracic acid treatment was largely due to pressure. A favorite application with him was glycerole of tannin.

DR. SEELY had never resorted very much to mechanical interference, but when he did so, he used the snare. He had used chromic acid several years and was probably the first to use it. This acid extends in depth and not on the surface as other acids do, hence its action is more free from danger. In using boracic acid, he packed the meatus completely. He called attention to the fact that polypi and granulations can be effectually dealt with by milder, safer, and more efficient means than we are inclined to think.

DR. J. ORNE GREEN preferred the use of the snare, and related a case, reported to him by the late Dr. Edward H. Clarke.

DR. R. C. BRANDEIS presented a paper on

EXHAUSTION VERSUS INFLATION.

He spoke of the disadvantages attending the use of the Valsalva method, the catheter, and of Politzer's air douche. In all of these it is impossible to graduate the degree of pressure employed, and therefore there is an increased difficulty of hearing and also more tinnitus and vertigo than before. By using compressed air he is able to regulate the force of the current of air employed, and thereby obviates some of the last effects. In many cases, however, these methods prove unavailing, and then he employs traction or exhaustion of air from the external meatus. This he does by means of a Siegle's speculum, which is attached to an exhausting syringe, which can exert any degree of traction desired. By carefully watching the excursions and appearance of the membrane and chain of bones, the operator is able to determine when further manipulation should cease.

DR. SAMUEL B. ST. JOHN, of Hartford, has used an apparatus, somewhat larger than that described by Brandeis, in cases of chronic catarrh, in order to give the ossicles a chance of gentle exercise analogous to that of the joints in chronic rheumatism.

DR. MATHEWSON reminded the Society of the method pursued by Dr. Pinkney, of New York, published some years ago in the *New York Medical Record.*

ORAL COMMUNICATIONS

being called for, DR. KIPP stated that he had very often found *deafness combined with synchisis scintillans of the vitreous.*

DR. KNAPP stated that in a marked case of this disease there was no ear trouble.

The different papers read at the meeting were referred to the Committee on Publication.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—DR. J. ORNE GREEN, of Boston.

Vice-President.—DR. J. S. PROUT, of Brooklyn.

Secretary and Treasurer.—DR. J. J. B. VERMYNE, of New Bedford.

Committee on Publication.—DRS. J. J. B. VERMYNE, C. J. BLAKE, and J. O. GREEN.

Committee on Membership.—DRS. JOHN GREEN, H. J. MILLER, and C. H. BURNETT.

The Society voted to meet next year the day before the annual meeting of the American Ophthalmological Society, and at the same place, and then adjourned.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Eighteenth Annual Meeting, held at Lake George, July 26 and 27, 1882.

(Specially reported for THE MEDICAL NEWS.)

THE Society met at the Fort William Henry Hotel, Lake George, New York, at 10 A.M., July 26, 1882, the PRESIDENT, DR. HENRY D. NOYES, of New York, in the Chair.

The Secretary announced the death of DR. E. REYNOLDS, of Boston, many years an Honorary Member of the Society.

The following is an abstract of the scientific work of the meeting:

July 26th.—Morning Session.

Dr. Charles Steadman Bull, of New York, read a paper on

PULSATING VASCULAR TUMOR OF THE ORBIT AND EYELIDS, TREATED BY ELECTROLYSIS.

The tumor occurred in a female child, who was admitted to the Nursery Hospital in September last. It had grown to its present very large size since the second or third day after its birth, when the mother first noticed anything out of the way. The temporal and zygomatic fossæ were pretty well filled by it, and the area of redness had been progressing steadily, mainly upon the forehead. The child was healthy, with the exception of the condition of the left eye. Free pressure on the arteries made no difference in the size of the tumor, but pressure on the carotid stopped pulsation. There was no murmur over the tumor. Several methods of treatment were taken into consideration by himself and other physicians, as tying the larger or smaller vessels, giving ergot, trying electrolysis. The latter method was sustained only by himself. At first ergot was given, under which the tumor gradually diminished in size, but the child being taken away from the hospital the treatment was not continued; and at the end of some months when it was seen again, the tumor was enlarging. He then tried electrolysis, employing from four to twenty-two cells on several different occasions, with the result in the end of a steady diminution in the size of the tumor.

The paper was discussed by Drs. Knapp and Green.

Dr. W. W. Seely, of Cincinnati, read a paper on

REMAINS OF THE HYALOID MEMBRANE, WITH ATTACHMENT TO LENS, AND DETACHMENT FROM THE PAPILLA.

Also a paper on

SEROUS EFFUSION INTO THE VITREOUS, CAUSING TOTAL TEMPORARY LOSS OF VISION, DUE PROBABLY TO MALARIAL POISONING; RECOVERY.

In the second paper, the patient was a man 33 years of age, previously free from disease or injury of any sort. About September 15, 1879, he noticed rather suddenly dimness of vision and floating bodies; was just able to read. Ten days later, vision being worse, he consulted an oculist, who it seemed told him the eye was full of blood. He was sweated by jaborandi, etc., vision remained about the same for six weeks, when it became still worse, and leeches were applied, and various remedies given. Remained about three weeks in a dark-room; continued to grow worse. Vision cleared up somewhat within six weeks, and still further under phosphorus. About the middle of February, 1880, vision totally lost in about two hours. Returning for treatment, leeches were applied and patient remained abed in dark-room about six weeks. May 1st, Dr. Seely first saw him; found a long-standing external squint of one eye with extreme amblyopia and no perception of light in the other formerly good eye, except the faintest by the most peripheric upper and inner portion of the retina after mydriasis. Pupillary reaction limited. With undilated pupil everything blank under ophthalmoscope; dilated, upwards and inwards in the extremes, traces of red reflex. He had never seen anything of the kind before. Concluded the vitreous was filled with effused serum, and so far as he knew there could be but one explanation—malaria, though there was no history of it. Patient went home July 20, V. $\frac{20}{20}$. No trace of any fundal disease, nor trace of floating bodies; and patient said what he had called floating bodies was a waving before the eye. No treatment. September next he again complained of vision having become somewhat smoky. In October seen again, vision rapidly returned to $\frac{20}{30}$, floating bodies perceived with difficulty by ophthalmoscope. Had a severe chill during this visit. Quinia given. April, 1882, he wrote that vision was about same as when he last saw the Doctor. No signs of kidney disease discovered, although patient complained of lame feeling in the region of the kidneys; quinia was again given.

We know, said Dr. Seely, that malaria produces a similar state of things in the kidneys, even a hæmaturia, and he was confident he had seen at least one case of effusion into the middle ear due to malaria. He asked if it was not probable that in the cases narrated, as in the kidney and bowels, the poison selecting the blood-vessels, prepared the way for the escape of the watery part of the blood, an effusion? The differential diagnosis between what was in this eye and a hemorrhage was not in his opinion at all difficult.

Dr. Read J. McKay, of Wilmington, Del., read a paper on

DISAPPEARANCE OF IRIS AFTER EXTRACTION OF CATARACT.

Male patient, aged 57, farmer and mechanic, of excitable temperament, was operated upon September 16, 1879, by Graefe's method of extraction, under anæsthesia, which he took badly and which caused great congestion of face and head. Excision of iris was immediately followed by filling of anterior chamber with blood; iris was teased out, leaving very little in the eye. Five or six hours after operation maniacal excitement ensued, lasting several hours.

Forty-eight hours afterwards, examination of eye showed anterior chamber filled with blood, nearly obscuring iris. Moderate iritis ensued. Six weeks after operation he could read with a $+2\frac{1}{2}$ lens.

Several weeks thereafter, whilst visiting him at intervals of several days, the iris disappeared, and no trace of it was ever seen afterwards. The entire capsule of lens was uniformily opaque with deposits of blood-pigment upon it corresponding to site of original blood deposits.

February 24, 1880, a secondary operation was done upon capsule, followed by very good result, permitting him to see moderately well. This continued for some months, when he was subjected to great excitement, when dense opacity of vitreous ensued, from which he did not fully recover, and the eye was practically lost.

The President thought the probable explanation of the case was a reduplication of the iris, a folding back of the ciliary processes; and Drs. Seely and Bullard related similar cases to which they thought the President's explanation applied also.

Dr. McKay also read a paper on

NON-PULSATING EXOPHTHALMOS WITH RECURRING THROMBOSIS OF ORBITAL VEINS.

Female patient, began at ten years of age to notice slight protrusion of right eye. It was more noticeable when angry and at time of menstruation. It increased very slowly up to time of marriage, between twenty-one and twenty-two years of age. During pregnancy no material change occurred, but during her three labors, which were severely straining, it grew rapidly larger and worse. At time of second labor several nodules of enlarged veins first appeared at upper inner angle of orbit.

February 17, 1881, she first visited me at the suggestion of her family physician, Dr. L. P. Bush, of Wilmington, Del. Then the protrusion of the right eye was three-quarters of an inch beyond that of its fellow. The right upper eyelid was greatly enlarged and congested (to double its usual size). The right orbital region was much swollen and congested. Her disfigurement was so great that she covered her face well when out of doors to prevent people staring at her. Ex-

amination failed to discover anything abnormal about the nose, antrum, or mouth; no pulsation was felt, and none detected by stethescopic examination. Told her the protrusion was due to enlargement of orbital veins behind the eye pushing it out of orbit, and advised non-interference at that time. She then told me Dr. Agnew, of Philadelphia, had three years previously examined her and given the same opinion.

Early in April following, eversion of right lower lid caused her to send for me. It was easily reduced. Some days later I learned that Dr. Bush (who was attending her sick baby) had several times reduced it, and to keep it up had applied strips of adhesive plaster; this caused pain from pressure upon the eyelid and eye-bulb. It was removed, and a flannel pressure bandage applied, which gently raised the right cheek. This could not be borne either. The swelling and congestion of the contents and surroundings of the orbit increased. Shortly afterwards the occurrence of thrombosis of perceptible and palpable enlarged orbital veins was suspected, and soon established. Nursing of her baby was stopped about June 1, 1881. She improved somewhat in general health for three weeks afterwards; then enlargement of the orbital contents and surroundings again manifested itself, and the eye, which had been totally lost from sloughing of the cornea and plastic iridochroiditis, and was very painful, was removed under anæsthesia. The orbit seemed to be filled with a mass of veins, feeling like a varicole, very thinly covered. The night after the operation her menses came on, and next morning she had intense pain in right orbit and right side of head. Second attack of thrombosis ensued. She manifested serious and threatening symptoms of purulent infection for some weeks; but then improved. In July her menses again appeared, and a third attack of thrombosis of a slight character accompanied it. She soon recovered from it. For some months thereafter slight swelling of the orbital contents occurred at each menstrual period. By the end of the year this ceased. In April, 1882, the everted, dependent, and enlarged lower lid was reposited and kept up by strips of adhesive plaster. She has lately reported parts about orbit get smaller at menstrual epochs. She has entirely recovered.

DR. WILLIAM F. NORRIS, of Philadelphia, presented a paper entitled

HEREDITARY ATROPHY OF THE OPTIC NERVES,

which, in his absence, was read by Dr. Harlan.

The first patient, æt 49, well developed, had complained of losing sight during the past year, and had now become so blind that he had difficulty in getting about without assistance. A cloud settled over his vision so that he could not see signals, being employed on a railroad. At present his eyes appear normal externally, the pupils of medium size, and respond to light. Central vision almost completely abolished in both eyes. Complains of bright light. Disk of the right eye slightly ovoid vertically, with choroid ring, slight central excavation, but the rest of the disk of a greenish-gray hue—entirely devoid of capillarity, but central vessels of about usual calibre. Choroid perhaps more granular than usual; very slight retinal haze. Disk of left eye more nearly round, remains of choroidal ring, scleral ring too marked, outward a black speckled patch one and a half times the width of main retinal veins.

Treatment, $\frac{1}{32}$ grain of strychnia three times daily, gradually increased to $\frac{1}{16}$ grain; result being improvement of vision, enabling the patient to walk about with much more safety. Strychnia treatment continued some time longer, but without apparent further benefit.

A first cousin of this patient was similarly troubled, and under the same treatment the central cloud diminished, and peripheral vision was markedly improved. The ophthalmoscope had revealed greenish atrophy of optic nerves, with entire want of capillarity of disk; little change in calibre of central vessels.

Here was an illustration of hereditary atrophy, beginning with the maternal great-grandfather, and extending through five generations. One uncle, after becoming blind, recovered his sight sufficiently to resume his ordinary occupation.

In both these cases, and those of pigment degeneration of the retina, heredity is frequently observed, but in the one the affection always starts after puberty, with neuritic atrophy of the optic nerve, and cuts off the central vision, while peripheral vision remains comparatively unimpaired. The other, also hereditary, localizes itself in the periphery of the retina, often early in life, producing a secondary atrophy of the optic nerve, leaving central vision intact often for many years.

He believed that in these, as in almost all other atrophies, a certain degree of improvement in the peripheral vision is to be obtained by the persistent use of strychnia, and that it is due not to any specific action on the nervous system, but to the fact that it so increases arterial pressure as to drive a greater supply of blood into the shrunken capillary vessels of the optic nerve and retina, and thus restores proper nutriment.

THE PRESIDENT, DRS. HARLAN, KIPP, and LITTLE, referred to instances of retinitis pigmentosa extending through several generations of the family.

DR. W. S. LITTLE, of Philadelphia, read a paper on

THE INFLUENCE OF THE FARADAIC CURRENT IN THE TREATMENT OF VITREOUS OPACITIES, WITH CASES.

The improvement found on diminishing the size of a vitreous opacity in a case of retinitis pigmentosa, which was being treated by the interrupted current with appropriate internal treatment, syphilis of a hereditary type existing, had led him to use it in all opacities of the vitreous, in addition to accepted methods of medication. He used it in 1877, but had recently used it in a larger number of cases.

Henri Curnur, in 1874, used the constant current in eight cases of vitreous opacity, with rapid improvement. Dor used both constant and interrupted in 1872 for change in choroid and retina.

The method of applying is either through one hand and upon the eye, or from nape of neck and upon the eye. A weak current and for a few moments, increasing time and strength at each application every other day till result is obtained. Satisfactory result is obtained in one, two, or three weeks, according to the amount of change in vitreous.

DR. C. S. MERRILL, of Albany, reported

A CASE OF GLIOMA OF THE RETINA IN A PATIENT TWENTY-ONE YEARS OF AGE.

The patient presented himself at the Albany Hospital, in November, 1878; was twenty-one years of age; had always enjoyed good health. There was complete detachment of the retina, which hung in folds and presented the characteristic appearances of glioma of the retina. The eye was removed; a portion of the fresh retina examined microscopically showed the growth to be simple glioma. The examination of the hardened eye showed the same, also, that the glioma proliferations had *not* extended into the optic nerve. Up to the present time, four years later, he has not had a return of the trouble, though now he is very low with phthisis, which began to devlop about a year ago.

The case is of great interest, inasmuch as it is the

first ever reported of glioma of the retina occurring in a patient at such an advanced age.

Dr. John Green, of St. Louis, read a paper entitled

A CASE OF RUPTURED ZONULA, WITH REMAINING ACCOMMODATION.

Also a second paper, entitled

AN OPERATION FOR ENUCLEATION, WITH REMOVAL OF TARSAL CARTILAGES AND CONJUNCTIVAL SAC.

Three cases, in which this operation had been done, twice by himself, were related. In the first case, the patient being a young farmer, the operation was performed some years ago for epithelioma, involving the tissues of the orbit. Although the eye itself was intact, it had to be enucleated, in order to remove the whole of the diseased structure. The dissection included the whole of the conjunctival sac and the tarsal cartilages, being a removal of the growth from Tenon's capsule. The skin was brought together by two or three sutures, leaving a considerable gap next to the nose to heal by granulation. The greater part of the lachrymal gland doubtless was removed with the tumor, and there was no lachrymation or œdema afterwards. He saw the patient two or three years after the operation. There was a perfectly smooth cutaneous covering of the orbit, and a scarcely visible incomplete linear cicatrix remained, indicating the original line of opening of the lids. The condition was certainly in all respects better than what could have been obtained had any part of the conjunctival sac been left. In the second case, the result of the operation also was satisfactory; likewise in a third case, the operation having been done by Dr. Arlt.

Dr. Green also made some

REMARKS ON OPERATION FOR ENTROPION.

In opening his remarks, he said he accepted the explanation given by Arlt in his hand-book, that most cases of entropion and trichiasis of the upper lid are the result of trachoma. The first stage in the operation which he did to relieve this deformity consisted in making an incision through the conjunctival surface, parallel to the lid margin, and one millimetre from the opening of the Meibomian glands. It extended generally from end to end of the tarsus, separating it from the muscular layer of the orbicularis. The second stage of the operation consisted in lifting and retaining the lid margin upward, which might be done by taking hold of the row of cilia—if they remained, using them as a lever—lifting them up, and sticking them to the front of the lid with collodion, so that, after healing shall have taken place, the cilia are found to occupy their proper position and take proper direction. This simple procedure of availing one's self of the line of cilia is not always sufficient; it is generally advisable also to establish a cicatricial process in the integument, which is done by cutting out a strip of skin quite near to the point of origin of the eyelash. Two millimetres is the maximum breadth desirable to be removed. There is a cut through the conjunctiva and tarsus from within, the excision of a strip of skin from without, and the nutrition of the lid margin is preserved entirely through the muscular layer. Usually, sutures were then passed by the curved needle, drawing up the margin of the lid, and closing the wound made by the excised strip of skin. Formerly these sutures were left in, but on account of the irritation which they caused, he usually removed them very soon, at present retaining the parts in position by collodion. He had employed this method for the most serious cases of this deformity, and with the highest satisfaction. It was far superior to the methods commonly in use, from which wretched deformity often resulted. The number of sutures employed was usually three.

Dr. Richard H. Derby, of New York, read a paper entitled

A CASE OF ANÆSTHESIA OF THE RETINA, WITH CONCENTRIC LIMITATIONS OF THE FIELDS OF VISION; RECOVERY THROUGH INHALATIONS OF NITRITE OF AMYL.

Patient, a girl aged 8 years, nervous, excitable, grown rapidly of late, recently convalesced from severe attack of scarlet fever. On March 30th she complained of pain in and about the eyes, affecting sight. Vision about half of each eye; eyes examined under atropia, vision as before; no improvement with glasses. On each eye fields limited to five degrees in every direction from the point of fixation. Patient treated with small doses of oxide of zinc; directed to wear blue glasses. After two months vision in no way improved, and on June 1st, vision reduced to $\frac{2}{10}$ of each eye; fields limited as before. It now appeared that the optic disks were paler in their outer halves, deprived of their capillary blush. Inhalation of three drops of nitrite of amyl given daily, each inhalation followed by marked flush of face, with no immediate change for the better in vision. On June 3d, vision $\frac{3}{10}$; June 8th, V. each eye $\frac{6}{10}$, with enlargement of visual fields. June 9th, V. $\frac{9}{10}$ nearly; June 10th, V. $\frac{10}{10}$; again enlargement of fields. June 19th, fields of view normal, V. $\frac{10}{10}$.

The interesting point in this case was not the rarity of the affection, for it is not uncommon, but the persistence of it, the evidence of partial atrophy of the nerve, the tendency of the case rather to retrograde under treatment as ordinarily recommended, and its very marked improvement after use of inhalations of nitrite of amyl.

Dr. Harlan spoke of the case of an hysterical girl, who troubled them a great deal at a clinic for a long time on account of excessive photophobia, which they were unable to relieve by a great variety of methods adopted. Examination under ether showed a healthy fundus. At length an assistant suggested a trial of nitrite of amyl, which was consented to, everything else having failed. He gave her inhalations of it in large quantity, three times a day, and soon she returned to the clinic entirely cured. Some time afterward, however, the hyperæsthesia returned, and this time nitrite of amyl failed to do much good.

Dr. Risley had obtained some benefit from using inhalations of nitrite of amyl in photophobia from disease of the cornea in children. The case of a man was referred to who was relieved for a moment, but after suspending the inhalation photophobia would return.

The President had reported a case to the New York Ophthalmological Society of a man who had been blind twenty-four hours when he presented himself at the hospital. The retinal circulation was found to be almost completely suspended. He wished to see what nitrite of amyl would do in hastening a cure. Under the inhalations the face flushed, and in about three minutes normal vision was restored. He also referred to the case of a child who had had a mild attack of scarlet fever, and afterwards suffered from a certain amount of conjunctival trouble and consulted a physician in Chicago, who pronounced the case one of retinitis. The child was brought east, and Dr. Noyes found a typical case of papillitis, choked disk in both eyes, but vision was $\frac{20}{20}$; no limitation of field, no impairment of ocular perception, no albuminuria or kidney trouble, no headache or constitutional disturbance. The case was novel to him. Dr. H. Derby referred to a similar case.

Dr. Risley said he had examined a number of eyes reported as perfectly healthy, with perfect sight, no brain symptoms, yet in several there was the typical appearance of choked disk.

DR. HOWE referred to the case of a lady who had sudden loss of vision in one eye, which after a number of minutes disappeared, and her sight was practically as good as ever, though receiving no treatment. But the exact state of things returned again after some time, and he found the fundus presenting the appearance described by Dr. Derby. He was waiting to see if a cure would be effected in the same manner as before.

AFTERNOON SESSION.

DR. THEOBALD, of Baltimore, presented a description of a case of

CIRCUMSCRIBED ABSORPTION OF THE LENS, APPARENTLY OF TRAUMATIC ORIGIN, WITHOUT THE REMAINDER OF THE LENS BECOMING OPAQUE.

The patient was a female, 30 years old. A small opacity existed in the cornea near its outer margin, and to this a slender tag of iris was adherent. With this eye V. was $\frac{20}{xx}$ (?) and J. No. 1 could be read with ease. After dilation of the pupil, a well-defined crescentic notch was discovered in the outer margin of the lens, just behind the corneal opacity. A layer of opaque lens tissue formed the boundary of the notch, and in close proximity to this there were also a few punctate opacities in the lens. The patient had no knowledge of the eye having been injured. It was thought probable, however, that a penetrating wound, involving the cornea, iris, and lens, had been received in childhood. If such was the case, the arrest of the cataractous process was most singular and difficult of explanation.

DR. THEOBALD also presented an account of

A CASE IN WHICH A FRAGMENT OF GLASS HAD REMAINED IN AN EYE—PROBABLY IN THE CILIARY BODY—FOR TEN YEARS WITHOUT PRODUCING SERIOUS CONSEQUENCES.

The accident was caused by the explosion of a glass test-tube, a minute fragment of glass being driven through the cornea into the anterior chamber, where it was seen hanging by a shred of tissue attached to the corneal wound. This, however, gave way after a few minutes, and the glass fell through the pupil into the posterior chamber and disappeared. Marked inflammatory reaction followed, but, under active treatment, subsided in about two weeks, leaving the eye with no trace of the injury but a minute corneal scar. Since then it has remained entirely free from irritation, and has given the patient no inconvenience whatever; and up to the present time—now ten years after the accident—its vision remains normal for both near and distant objects.

DR. GREEN recalled a case which he saw in consultation, in which a piece of percussion cap had lodged in the lens without producing general opacity, the period of tolerance having covered a good many months.

DR. POOLEY had seen a case in which a triangular piece of glass, about three millimetres in size, lay apparently in the iris, midway between the pupil and attached margin of the iris. It had produced no symptoms demanding interference.

DR. KNAPP thought the tolerance of foreign bodies in the eye usually depended more upon their size than upon other conditions. The fear from uncleanliness was often exaggerated. The foreign body to be innocuous must be small, but all small bodies were not innocuous.

THE PRESIDENT mentioned a case in which a piece of iron had passed through the cornea and was adherent to the lens, having remained in this position seventeen years, and a number of physicians had desired to remove it, but fortunately he had not allowed any one to do so yet.

DR. KIPP had under care a practitioner, who, for about eighteen years, had had a piece of percussion cap, probably in the retina, sight remaining good, and no irritation. The case was further discussed by the President, Dr. Knapp, Dr. Kipp, and Dr. Theobald.

DR. G. HAY, of Boston, then read a paper on

A CASE OF EXTENSIVE HEMORRHAGE BETWEEN THE CHOROID AND SCLEROTIC.

The patient was a man who had enjoyed very good health, except for some dyspeptic troubles and some wandering pains, for which his physicians used the word gouty. Dr. Hay saw him on the 21st of May for extensive chemosis, which he supposed would be likely to pass away in a few days. Nine days afterward the chemosis had diminished, the patient was in good spirits; it was supposed he would get well. Two days later he was asked to see him because of soreness about the malar bone, the lower lid slightly swollen, the bulbo-conjunctiva very much injected, the tension about normal; patient saw with that eye but not so well as with the other, Three days later he had pain about the eye in the night; there was more serous chemosis and more injection of the bulbo-conjunctiva; slight discoloration of fluid in anterior chamber; pupil as in healthy eye; vision not so good; patient pale and feeble. A few days later pupil did not respond as well as in other eye. June 10th, under ophthalmoscope, large grayish swelling came into view from above, showing no vessels at that time; and when he looked down a dark mass came into view from below, which was less defined. Upper mass somewhat evenly convex and dark gray. As the case was unusual, he had the patient see Dr. Hasket Derby, another specialist, both of whom considered the case to be one of intra-ocular tumor. Not being able to account for the condition in any other mannr, Dr. Hay enucleated the eye for the supposed tumor on June 13th. On examination it was found that the anterior half of the choroid was separated from the conjunctiva very extensively all round by a layer of blood which in some parts was three-sixteenths of an inch thick, extending between the membranes into the posterior half of the eye where it gradually became less thick.

DR. KNAPP had described exactly a similar case in an article on intra-ocular tumors. It taught us to be cautious in the matter of diagnosis in such cases.

DR. G. C. HARLAN, of Philadelphia, then described *A Test for Simulated Monocular Blindness.*

DR. W. S. LITTLE related a case of *Remains of Hyaloid Artery.*

DR. F. BULLER, of Montreal, read a paper on *A Somewhat Peculiar Case of Alopecia of the Eye-lids.*

THE PRESIDENT, DR. H. D. NOYES, of New York, read a paper on

AIDS IN THE REMOVAL OF FOREIGN BODIES FROM THE CORNEA.

In the first paper he described a convenient method for illuminating the eye and magnifying any foreign body which may have become attached to the cornea, thus facilitating its removal without the aid of an assistant. The two and a half inch magnifying lens and the illuminating lens were respectively attached to a finger of one hand, the fingers on which hand also were used to retain the lids open, while with the other hand the foreign body could be removed. He had found this method exceedingly convenient, especially where no assistant was at hand. The lenses could be carried in the vest pocket.

In this connection he referred to a case of foreign body in the cornea, it not having gone through into the anterior chamber, but projecting a little beyond the inner surface of the cornea and not sufficiently on the outer surface to be removed by the forceps. From

a face view the wound was larger than the foreign body. Considering the usual methods of removal in such cases to be hardly applicable or appropriate, he took a needle of suitable shape, inserted it alongside the foreign body, and succeeded in getting the needle directly behind the body and tilted it out, losing scarcely any of the aqueous humor.

He mentioned the case of a child who, a week before he saw her, received an injury by the falling of a chestnut-burr upon the unclosed eye while looking up into a tree. Half a dozen little points of the burr, which were sticking in the cornea, were removed with a fine pair of forceps.

Dr. Seely referred to a similar case, the patient having fallen upon a weed from which many fine spines projected. He was unable to remove the several pieces upon the cornea with the forceps, but had to make an incision the entire length of each, and lift it out of its bed. The boy has perfect sight, and there is no opacity of the cornea.

Dr. McFarland had extracted a foreign body from the cornea of a patient in the same manner referred to in the President's first case.

Dr. Noyes then read a second paper—

PENETRATION OF A FOREIGN BODY INTO THE ORBIT; PROBABLE WOUND OF THE BRAIN, AND TOTAL AMAUROSIS.

The case was that of a boy who, last April, in playing with a mate, accidentally turned his head in a manner to receive the sharp point of a wooden sword on the lower and outer margin of the orbit, just above the malar bone, the penetrating fragment, six and a half centimetres in length, breaking off at its point of entrance into the orbit. It was extracted by some person in the house. A physician was called who gave a hypnotic. Total blindness in that eye occurred immediately after the injury. Dr. Noyes saw the patient twenty-four hours later. The pupil was partially dilated, and did not respond to light. The optic nerve was intensely red, very slightly swollen; veins turgid. The other eye appeared normal. No constitutional symptoms developed, although it was feared, on account of the length of the foreign body, that the meninges and brain were injured. It was uncertain whether the affection of the optic nerve was due to direct injury by the penetrating object or indirectly to hemorrhage. In this connection he referred to "a case of lodgement of a foreign body in the cavities of the nose, orbit, and cranium, where it remained five months; removal by operation; subsequent trephining for pus in the brain; death, autopsy;" which he published in *The American Journal of the Medical Sciences*, for July, 1882.

July 27th.—Morning Session.

The Society was called to order at 9 A.M. by the President.

The President, Dr. Noyes, read a paper entitled

REDUCTION OF SIZE AND TENSION OF THE EYEBALL BY TOTAL AVULSION OF THE IRIS AND BY NEURECTOMY.

Stimulated by the experiments of Priestly Smith with regard to the causation of glaucoma, he desired to learn whether this author's theories concerning the origin of tension in glaucoma could be substantiated by actual observation. Two cases were related; in the first there being glaucoma of both eyes, total blindness existing in one, and it was the operation and observations upon this eye which related to the matter in hand. The entire iris was removed through a small aperture in the posterior part of the anterior chamber. The lens was of that large size which, according to Smith's theory, might be the cause of the glaucoma. The final result of the operation was a decrease in the tension and relief from pain. The lens, however, projected forward into the anterior chamber, being kept continually in contact with the cornea, which showed greatest tension to exist from behind. In this case, the lens was one of the largest he had seen, being nearly the diameter of the cornea, against which it lay after the operation, and would seem, therefore, to reinforce Smith's theory. The same operation was performed on the second patient, in whom the lens was not of unusual size. The tension, as long as the patient was under observation, which was but a short time, remained as before. No remarkable reaction followed in either case.

The next case related was one in which opticociliary neurectomy was performed on a patient who had hydrophthalmia, the result being a very satisfactory diminution in the size of the eye to nearly normal, without inflammation or a tendency to repeat the process of enlargement.

Dr. Theobald remembered to have seen Mr. Barwell, some years ago, remove the entire iris in a case of glaucoma, in which iridectomy had been of no benefit, and he understood that Mr. Barwell had done it several times, in some cases with benefit.

The President then remembered himself having seen Mr. Barwell do the operation.

The President, Dr. Noyes, then related

THREE CASES OF TUMOR OF THE EYE.

In the first case, a man, fifty-one years of age, received an injury to the eye, after which a small tumor, which had previously existed at the inner canthus, began to enlarge, and reached nearly to the outer canthus, covering over the front of the eyeball, and connected with the upper lid. It was removed. A plastic operation was done. The patient had no further trouble for about four months, when a swelling occurred in front of the ear of the same side. When he presented himself at the institution, this tumor had enlarged considerably. He was very cachectic, evidently having malignant disease. The autopsy showed cancerous nodules in the lungs, brain, on the skull, and various portions of the body. The fact that the disease did not return in the eye on which the operation was done, showed the propriety of not performing enucleation.

The second case was that of a man about seventy years of age, from whom he removed a small growth, about the size of a pea, upon the sclera, between the cornea and outer canthus. Microscopical examination showed that it had all the characteristics of an epithelial growth; but it had not returned, the operation having been performed two years ago.

The third case was one of small-sized intra-ocular tumor, concealed by detachment of the retina. The patient for some time had been under the observation of a specialist, who regarded the case simply as one of detachment of the retina, but an operation, which had to be done to relieve pain, verified the President's diagnosis as above.

Dr. Bullard referred to a case in which he enucleated the eye for a sarcomatous tumor, and afterward applied chloride of zinc paste within the orbit in case some of the remaining tissues might be affected. The patient afterward had symptoms of meningitis, but entirely recovered. An interesting fact was that there should be meningitis without any necrosis of the bones intervening between the eyeball and meninges.

Dr. Prout referred to a case in which he used chloride of zinc to the orbit after enucleation, there being no attempt afterward at granulation, but no bad result occurred.

Dr. Knapp, of New York, read a paper on

METASTATIC CHOROIDITIS.

It was introduced by the report of the case of a young lady who, by exposure during menstruation, con-

tracted a metritis which laid her up for ten days, and was relieved by poulticing. During the attack first one eye inflamed, but recovered in three days. A day after the first eye had become inflamed the other was similarly affected, but got rapidly worse and blind in a few days, from fully developed purulent iridochoroiditis ending in atrophy of the globe.

Dr. Knapp said the great majority of cases of metastatic choroiditis that had come under his notice, resulted from cerebro-spinal meningitis. Blindness occurring in the course of that disease was, however, not always brought about by metastatic choroiditis, but in rare cases by optic-nerve atrophy. He reported a case where one eye had become blind from the latter, the other from the former, affection. He thought that the well-developed cases were incurable, but that there was also a certain number number of milder cases, where the embolic process was limited in extent, that might get well. He laid stress on the prophylactic treatment, care during menstruation and confinement, and as curative measures recommended cold applications to the eye, and quinia internally.

DR. GEORGE C. HARLAN, of Philadelphia, reported a case of

SARCOMA OF THE LACHRYMAL GLAND FORCING THE EYEBALL DOWNWARDS, FORWARDS, AND OUTWARDS.

The patient was a man 70 years of age, in excellent health, and the tumor, which had been growing for four years, had never given the slightest pain. It was as large as a hen's egg, and had completely dislocated the ball, forcing it downwards, forwards, and outwards. The top of the equator was below the level of the pupil of the other eye. Removal was entirely accomplished, as there were no adhesions, and two weeks after the operation the eye had nearly resumed its normal position. Vision, which had only been quantitative, was improving. Microscopical examination showed the growth to be a spindle-celled sarcoma. Neoplasms of the lachrymal gland, particularly of a sarcomatous character, are considered rare. The points of special interest in the case are the entire absence of pain, and the external direction of the dislocated eyeball. An internal direction would be naturally expected, and is frequently included, as is also pain, among the diagnostic symptoms.

DR. KNAPP remarked that he had lately removed a similar large tumor of the lachrymal gland. Primary union took place, and the globe returned to its natural position, normally movable. There was optic neuritis after the operation, now slowly disappearing. The aspect of the cut surface was different from what he had seen in these tumors. It was homogeneous, purplish-red, of the consistency of flesh, no amyloid reaction. Immediate cursory examination with the microscope showed a scant amount of connective tissue fibres with many small round and spindle-shaped cells. No indication of a glandular structure.

DR. HARLAN also exhibited

AN IMPROVED TRIAL GLASS FRAME,

which he thought had some advantages over any now in use; the principal of which are, that it is very light, and that the troublesome spring for holding the glasses is dispensed with. The graduated grooved arc for cylinders is attached to the lower half of a light ring, the tip of which is connected with the horizontal bar by a sliding clamp. There is but one groove, but there are hooks on either side of it for holding glasses, so that three glasses can be used together.

DR. KIPP, of Newark, N. J., read the

HISTORY OF A CASE OF ACUTE INFLAMMATORY GLAUCOMA, WHICH WAS FOLLOWED BY CEREBRO-SPINAL MENINGITIS.

The patient, a German woman, fifty-one years of age, who had previously been in good health, was attacked by severe pain in back and head ten days before, for the relief of which she had, on the advice of her physician, applied fly-blisters to the right forehead and behind the ear. Half an hour after their application, very severe pain in the right eye came on, and has continued since. Eserine was applied by another physician, who sent the case to the reporter for operation. The eye was found to present the usual symptoms of acute glaucoma. An iridectomy was made at once, and gave immediate relief. Three days later, the other eye became glaucomatous, and was treated with eserine, which cured this eye in a few days. Ten days after the iridectomy, the patient was discharged cured; but ten days later, the eye which had been iridectomized, became again inflamed and very painful. The left eye, a few days later, showed many of the symptoms of acute glaucoma, and an iridectomy was also made on this eye. The operation proved, however, of no avail. The pain in the head continued. Distressing nausea came on, and the patient had night sweats and mild delirium at night. The delirium gradually increased in severity. Bilateral convulsions and involuntary evacuations; coma. The patient died ten weeks after first symptoms showed themselves. Leeches were applied to the temples. Quinia, calomel, and iodide of potassium were given at different times. In the opinion of Dr. Kipp, the glaucoma was in this case due to the cerebral disease.

THE PRESIDENT referred to a case in which an attack of acute glaucoma was the initiatory symptom of serious brain phenomena, which terminated in death. There was found softening of the brain, with extensive and very severe atheromatous degeneration of the arteries.

DR. S. B. ST. JOHN, of Hartford, then read a paper on

GLAUCOMA FULMINANS.

In March of this year he was sent for to go into the country to see Mrs. L. He found a woman of 59, well nourished and enjoying general fair health, who said that, about forty hours before his arrival, as she was sewing, she felt as if something had got into her left eye. Nothing could be seen by her friends and she kept on, but the irritation increased. In about two hours a second inspection revealed mydriasis, and the pain was increasing. She suffered terribly through the night, but morphia finally relieved the pain, and she discovered great impairment of sight and sent for him. He found the right eye normal in structure and function, the left with pupil dilated, T + 3, media obscured, and V = hand at 6″. Diagnosed glaucoma, and performed an iridectomy at once. This eye did well, and left eserine with the family physician to be used in case the other eye became affected, which I represented as quite probable. On the fourth day after the beginning of the trouble in the *left*, and the second day after the operation, vision began to fail in the right, and pain to be present, but the pain was at no time as it had been in the fellow eye. Eserine was used at once, and he reached the patient thirty-six hours after to find the right eye the counterpart of the left one when first seen. An iridectomy was at once done, and the progress of the case from that time was satisfactory, the lady reporting two months later with V $\frac{20}{50}$ in one eye, and $\frac{20}{40}$ in the other, having had no pain or other trouble since the operations. The case was reported because of the comparative infrequency of glaucoma fulminans, and because of the short time intervening between the affection of the two eyes.

DR. ST. JOHN also read a paper entitled

REMOVAL OF PARTICLES OF IRON FROM THE LENS BY MEANS OF A MAGNET.

In January last a blacksmith came to him with the

following history: Three months before, while shoeing an ox, he felt something strike his eye, but the irritation soon passed off, and he thought no more about it for two days when the eye became painful, and he went through with what was probably a sharp attack of iritis without treatment other than anodynes. The vision in the eye was reduced to perception of light, but the eye became quiet and remained so till two weeks before coming for advice, when it became painful and the fellow eye sympathized. Dr. St. John found a traumatic cataract with post-synechiæ, and just at the edge of the pupil a brownish spot extending beneath the pupillary edge. In this brownish spot he thought he could see a black speck. The patient was etherized, and a free incision made with a Graefe knife. He then attempted to do an iridectomy to facilitate the escape of the lens substance, but the traction of the forceps upon the adhesions ruptured the capsule, and lens matter welled up into the anterior chamber. Remembering the black spot which he had seen, he passed the point of a Gruenig magnet into the soft lens matter, and upon withdrawing it found a particle of iron adhering, which was too small to be measured, but which was about twice the size of an ordinary period mark in print. The case made a good recovery, so far as the relief of irritation to the eye operated on, and of the sympathetic irritation was concerned, and the vision was decidedly improved.

Dr. Mittendorf, of New York, presented a paper on

EMBOLISM OF THE CENTRAL ARTERY OF THE RETINA.

He reported three cases of this rare disease under observation. The first case, that of a middle-aged lady who had had previous attacks of rheumatism and valvular lesions of the heart, was suddenly blind after violent exercise, which was followed by gradual clearing up of the upper part of the field of vision. In this case the embolism could be distinctly seen in the upper branch of the central artery. The vision improved in course of time to $\frac{22}{100}$, but the field of vision did not improve materially, leaving the lower part of the field obscure.

The second case, that of a literary gentleman, about forty years of age, who had likewise a severe attack of rheumatism several years ago which resulted in valvular lesions of the heart. In this case the disease came on suddenly on going rapidly up-stairs. The seat of the embolus must have been high up in the main artery, for the characteristic appearances of the retina were soon superseded by marked atrophic changes which were especially manifest in the optic disk. There was complete blindness in the beginning, but in the course of a week a collateral circulation, which could be distinctly seen in the shape of two ciliary vessels at the nasal side of the optic disk, restored a portion of the retina to its function, and a small part of the field of vision remained. The vision in this small temporal portion of the field improved gradually up to $\frac{10}{200}$, whilst in the remaining part of the retina no perception of light was seen.

The third was that of a middle-aged German, who had also rheumatism and mitral regurgitation. He was attacked suddenly one evening, on lifting the shutters of his store, with blindness of the left eye. The field of vision in this case cleared up the next day considerably, leaving the nasal part entirely free.

The first two cases remained under observation for nearly a year, and the vision of those eyes remained tolerably good. The treatment in these cases consisted in the administration of digitalis, and later of strychnia and electricity. All these cases present heart lesions with a previous history of rheumatism. In two of the cases the left eye, in one the right eye, was the seat of the embolism. In all of them the onset of the disease was sudden, and was followed by complete blindness in the beginning. The characteristic appearances of the retina were very marked, and the cherry-colored spot which is universally found in these cases remained in the one case for nearly ten months; in the other case it was followed by hemorrhagic effusions into the fovea centralis, and the red spot disappeared with absorption of the effused blood. In all the cases a valuable amount of vision was preserved, which is rather unusual. He depended especially on digitalis as a heart tonic, but was afraid to use nitrite of amyl because it might give rise to a new embolic process. By this treatment in the one case the embolus was apparently forced from the main artery into one of the branches; in the second case the administration of digitalis seemed to improve the collateral circulation very materially. The strychnia and the electricity were employed as nerve tonics for those portions of the retina whose functions were not destroyed.

The following papers were read by title: *A New Method of Oblique Illumination; Premature Delivery to prevent Blindness; A Single Glass for all Distances after Cataract Operations in Young People;* by Dr. E. G. Loring, of New York. *Embolism of the Central Artery of the Retina*, by Dr. W. F. Mittendorf, of New York.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President, Henry D. Noyes, M.D., of New York.
Vice President, William F. Norris, M.D., of Philadelphia.
Secretary and Treasurer, Richard H. Derby, of New York.

The Society then adjourned, to meet at the Kaaterskill House, Catskill, New York, on the third Wednesday of July, 1883.

CORRESPONDENCE.

LETTER FROM BERLIN.

An interview with Dr. Koch concerning Tuberculosis.

Yesterday I was present during a conversation between one of the assistants at the Pathological Institute and of the assistants (mitarbeiter) at the Gesundheits-Amt. The talk was about syphilis. The worker with germs was bewailing the fact that he had not yet succeeded in isolating the specific cause of syphilis, though he had worked long and earnestly with it, and I know him to be as skilful almost as Koch himself. But during his experiments with brood condylomata, he had isolated a virus which, when injected into the body of a rabbit, produced in the substance and upon the surface of the heart, strange to say, nodular masses which looked like, but are not, gummata. These masses or nodules, larger than a pea, invariably occurred, and the observation had been made hundreds of times.

The conversation was short, and might seem insignificant, but it was a straw which shows whence and whither is the prevailing wind.

"What do you take the nodules for?" inquired the pathologist.

"I find nothing specific in them," was the answer.

"But I mean what is the structure of it?" naturally asked the pathologist.

"I have not looked at its structure."

"What, you have not examined its structure! You do not know if it be a neoplasm?"

"No," was the response of the worker with germs. "Finding nothing specific in it, I was not interested in it any further." (I ought to say here, for the benefit of those not acquainted with microscopic work, that examinations with color tests, for colors, and examination for structure, cannot be made at the same time.)

Blank amazement was upon the face of the pathologist.

"What would you expect to find if you did examine its structure?" he asked.

"Well, probably giant cells, multiple nuclei, the ordinary signs of an inflammation," was the reply.

"And how would you account for them?" asked the pathologist.

"Why, I should regard them as the ordinary effects of a necrosis, produced by the action of germs," was the reply; "nothing more, and nothing less."

And this reminded me of a conversation I had with Koch himself when I first came. I was here fifteen years ago, I said, and I had come there to study pathology, as it was then called—meaning, of course, morbid anatomy. I ventured to say that I thought the field of exploration in this direction was pretty well worked up, and that not much further could be expected from it from a purely practical standpoint; that as a practitioner of medicine I had become dissatisfied with the therapeutic results of studies in morbid anatomy, which, after all, could only show us the effects of disease, and had now come to study etiology, in the hope that better fruit would follow a knowledge of the cause of disease.

To this Koch replied that etiology is like a new mine which is just being explored. One must not, because a vein has been discovered, arrive at once at the conclusion that we may find gold in every direction. "It is very much like mining in California," he continued. "A man comes upon gold, and therefore every one believes that all that is necessary is to put in a pick. There has been, and there will always be, much disappointment in the search after truth in every field."

"But," I ventured to say again, perhaps in self-justification, "one can only judge at first from surface indications, and if he feels that he has worked in barren fields, he will likely turn at last to others."

"Then the good that we are to look for as the results of these investigations will come, for the most part," he said, "through prophylaxis, and not so much through direct cure. I believe myself that too much complication has arisen from studies only in one direction."

"You do not believe much, then," I asked, "in the possibility of discovering a method of reducing the virulence of the tubercle bacillus, and thus, by inducing a mild form of the disease, secure a future immunity?"

"I can speak, of course," he answered to this, "only from what is at present known. I can say nothing as to future possibilities, but I will tell you why I consider such an event improbable. It is because there is no analogy between small-pox and tuberculosis. Small-pox is a disease which confers an immunity by one attack. It is so rare as to be a clinical curiosity for an individual who has once had the disease to have it again. But does not every one know that this is not true of tuberculosis? Is it not rather in the experience of every practitioner that one who has had tuberculosis once does have it again and again, until he finally dies of it? Of course, many cases recover entirely; nevertheless, every practitioner knows that one attack does not give immunity to future attacks. That is one standpoint from which to regard this question, and it is the standpoint of clinical observation. Now we can add to this another substantiating fact. You saw yourself the dog which was injected with a minimum quantity of tubercle bacilli. The injection was made in the abdominal cavity, and it produced an exquisite tubercular peritonitis. Nevertheless, the dog finally recovered entirely, and seemed perfectly well. Then the same dog was used again, and a large quantity or number of the bacilli was introduced into the abdominal cavity. If you will go down to the animal quarters to-day, you will see that the dog is fatally ill. The abdomen is highly tumefied, and death will probably occur to-day or to-morrow. Now, if one attack conferred any immunity to future attacks, it ought to have been impossible to have produced the second attack. Hence I do not now think it possible to prevent the disease in that way, nor do I think it necessary to try it. For individuals affected with the disease can be prevented from disseminating it."

"By destroying the sputum," I interposed.

"Not only the sputum" he said at once, "but every source of contamination. So soon as it is universally recognized that tuberculosis is an acute infectious disease, it will be treated like the other acute infections, by better care of all the persons attacked, by isolation, perhaps, in properly arranged institutions, etc., and by having far more care than ever paid to the meat and milk of tuberculous cows, cows suffering with *perlsucht*, which we now know to be tuberculosis."

"About basilar meningitis," I asked, "would you kindly repeat what you said before?"

"Well, I repeat, that I have always found somewhere a caseous gland, usually among the bronchial glands, often among the mesenteric glands, that could account for the source of the bacilli in the brain without involving the possibility of inhalation directly through the nose. We have here some beautiful specimens" (holding one up), "which show a caseous mass protruding into the calibre of a vessel. From this mass particles might be easily washed off into the general circulation. This microscopic specimen was brought in a few days ago, and I had no difficulty, after tinting it with the proper colors, in showing [putting in under the microscope], as you may now see yourself, the presence of myriads of bacilli."

"The opponents of the germ theory in general," I said, "claim that the germs produce their deleterious effects by chemical action, rather than by direct destruction or consumption of the tissues."

"As to that," he replied, "no one knows as yet how they act. Possibly they may evolve chemical products which do the harm. But that is after all only a side and subordinate question, for if the germs were not there the effects would not follow. It is enough for us now to have discovered the presence of them as the cause of the disease. Thus for instance in trichinosis, it is not probable that the trichinæ kill by their mere presence. It is not improbable that they may evolve some chemical products, and through them indirectly produce the results; but the prime fact remains that, if the trichinæ are not there, the disease does not occur. Some future investigations may show us just exactly how the results are produced. This is a question more of scientific than of practical interest. By the way, will you tell me why, among your people, who are known to be the most practical people in the world, so little care is taken to prevent trichinosis? In the examinations which I have made of American hams, one in ten turns out trichinotic, and other observers here have often found trichinæ in one in fifteen."

I was not aware that the percentage was so enormous as that, I said, and could only reply that cases of trichinosis in my part of the country, that which furnished the most pork for exportation, were so rare as to hardly supply us with enough clinical material for illustration purposes. To this Dr. Koch urged that our people probably do not eat much raw meat.

This, and the fact that the meat used at home and that exported is not the same in character, will probably reconcile the apparently discordant facts.

At this point the conversation was interrupted by the announcement that a party of military physicians had been sent in to witness the demonstrations. Every day the tide of visitors increases, until it is becoming a serious interruption to the regular work. Hereupon, I

asked permission to report the substance of the conversation, assuming myself all responsibility for misconceptions, knowing that there was abundant opportunity for future corrections. With the amiability which is characteristic of men of science the permission was given at once, and I took down my notes on the table before I left.

I have yet to describe the exact methods of preparation of the culture substances, and the details of the color reactions for practical use in recognition of the tubercle trouble in the sputum or in sections; for I feel sure that, whatever progress may have been made at home with practical work, some disappointment and discouragement must have occurred to the apprentice, for want of mention of details which the master-workman takes it for granted are well known.

J. T. W.

Berlin, June 30, 1882.

NEWS ITEMS.

CANADA.

(*From our Special Correspondent.*)

New Medical School.—The Medical Faculty of the new Western University of London, Ont., has been organized, and the prospectus issued for the first session. The Dean is Dr. Charles G. Moore, and the Registrar Dr. John A. Stevenson. Among well-known men connected with the Faculty are Dr. Bucke, Medical Superintendent of the London Insane Asylum, and Mr. William Sanders, ex-President of the American Pharmaceutical Association. There are now ten medical schools in the Dominion, three of which are French and seven English.

American Association for the Advancement of Science.—The meeting this year will be held in Montreal on the 23d of August. Members of the profession who purpose being present are requested to send their names to Dr. Osler, 1351 St. Catherine Street.

Health in Michigan.—Reports to the State Board of Health, for the week ending July 22, 1882, indicate that whooping-cough, remittent fever, and erysipelas increased, and that influenza, puerperal fever, tonsillitis, consumption, measles, inflammation of the bowels, cholera morbus, pneumonia, cholera infantum, and bronchitis, decreased in area of prevalence.

Small-pox was reported present during the week ending July 22, and since, at 10 places, as follows: at Detroit, Flint, Lansing (one case, convalescent), in the township of Burton, at Mt. Morris, and at Hastings, July 22; at Wayne Co. Pest House, at Deerfield, Lapeer Co. (one case), July 23; at Grand Rapids (12 cases), July 24; and at Westwood, ten miles north of Kalkaska, July 27. At Grand Rapids one man had small-pox who had it 16 years ago.

Sanitary inspectors report, for the week ending July 22, 15 cases of measles brought by immigrants arriving at Port Huron, and 6 cases of measles among those arriving at Detroit.

Senator Cameron's Joint Resolution.—At the annual meeting of the Juniata Valley Medical Society, held at Cresson, Cambria County, Pa., July 18, 1882, the following preamble and resolutions, after free and full discussion, were unanimously adopted, viz.:

Whereas, The Hon. J. D. Cameron, one of our Senators in the Congress of the United States for Pennsylvania, has introduced into the Senate a joint resolution, providing that it shall be a misdemeanor, punishable by a fine of five hundred dollars and dismissal from office, for officers of the United States Government—civil, military, or naval—to make discrimination in favor of or against any school of medical practice, or its legal diplomas, or its duly and legally graduated members, in the examination and appointment of candidates to medical service in any of the departments of the Government; therefore,

Resolved, That this Society, representing the medical profession of the entire Juniata Valley and largely that of Central Pennsylvania, regards said joint resolution of Senator Cameron as tending only to degrade and subvert the science and rational practice of medicine, and injure the public service.

Resolved, That a copy of this action be forwarded by the Secretary to Senator Cameron, with a respectful request that he will not further favor or urge the passage of said joint resolution by the Senate.

The Columbus Medical Journal, the first number of which, bearing the date of July, 1882, is just received. It presents the general appearance of the late *Ohio Medical Journal*, of which it seems to be a continuation, having the same editors and publishers. It contains several valuable original papers, has a full table of contents, and the editorial pages are marked by the same sprightliness which characterized its predecessor.

Illness of Dr. Wm. H. Mussey.—We learn with regret that Dr. Wm. H. Mussey, the distinguished Cincinnati surgeon, was stricken with paralysis on Monday afternoon, and at the latest report was not expected to live.

The American Dermatological Association will hold its Sixth Annual Meeting at Newport, R. I., on August 30th and 31st, and September 1st.

Chair of Surgery in the University of Edinburgh.—Mr. John Chiene has just been elected Professor of Surgery in the University of Edinburgh, to succeed the late Prof. Spence.

Mr. F. M. Balfour has been elected Professor of Morphology in the University of Cambridge, England.

Mr. T. Spencer Wells, Surgeon to the Queen's Household, has been elected President of the Royal College of Surgeons of London.

Prof. Vogt has been called to the Surgical Chair in Griefswald, in place of the late Prof. Hueter.

M. Pasteur has received a medal from a committee formed from the members of the Académie des Sciences, Académie de Médicine, Société d'Agriculture, and the Faculté des Sciences, in consideration of his important discoveries in pathology.

Académie de Médicine.—The committee appointed for the purpose, have proposed the following names for the vacancy in the Section of Physics and Chemistry: 1st, and *ex æquo*, MM. Garid and Javal; 2d, M. Bouchardat; 3d, M. Hardy; 4th, M. Onimus.

The Manufacture of Opium.—The *Scientific American* for July 29, 1882, contains an interesting illustrated article on the processes of manufacture of opium.

Koch's Investigations.—The British Association for the Advancement of Medicine by Research has requested Mr. Watson Cheyne to undertake, under the auspices of the Association, the verification of the results lately obtained by Koch on the subject of tuberculosis, and the comparison of these with the results obtained by Toussaint and other observers, and have made a pecuniary grant for the purpose.

LIGATURE OF THE INNOMINATE ARTERY.—The last report of Mr. Thomson's case of ligature of the innominate artery (see THE MEDICAL NEWS, July 15th, p. 82) is to the twenty-seventh day after the operation. The patient continues to do well, temperature normal, pulse 86; the track of the drainage-tube has healed, and only a small superficial sore now remains unhealed. The aneurism is without pulsation, and is becoming smaller.

This case will no doubt revive the oft-discussed question of the justifiability of this operation. Of late years, the general opinion has been against it, and in most of the surgical text-books this view is strongly expressed. It is doubtful how often the operation has been carried out. There are five cases attributed to Dupuytren, Lynch, Pirogoff, Bergelsky, and Peiscotto, which do not rest on sufficient evidence to enable us to include them in our list of cases; in all of these cases the operation, whatever it was, proved fatal. But there are twelve undoubted cases performed respectively by Mott (1818), Graefe (1822), Norman (1824), Arendt (1824), Hall (1830), Bland, Lizars (1837), Hutin (1842), Cooper (1859 and 1860), Gore, and Smyth. Of these, eight cases perished from hemorrhage, one from acute pericarditis, one from inflammation of the sac of the aneurism and pleuro-pneumonia, and one from blood-poisoning. Smyth's case is the only one that recovered, and this only after the patient had experienced four attacks of secondary hemorrhage, and had had his vertebral artery ligated. In many of the fatal cases, although death took place many days after the operation, the aneurisms did not show any evidence of consolidation. We shall be very glad if Mr. Thomson's case prove ultimately successful, as it now promises to do. But although a month has elapsed since the operation, and all looks well, we cannot forget that in two cases—Graefe's and one of Cooper's—death occurred from hemorrhage on the sixty-seventh and forty-first days respectively. Recent surgical advances have altered the position of this operation to some extent, for they have provided us with several materials which, while successful in leading to the permanent occlusion of the artery, do not cause suppuration of its coats. This removes one great source of danger. But the deep position of the artery, its shortness and its relations to other important structures, render the procedure a very difficult one. There are at least four cases reported where the surgeon has been unable to complete the operation.

Since the above was written, Mr. Thomson has forwarded the following particulars of the progress of his case: "My case has now reached its thirty-fourth day. On the thirtieth day there was some bleeding through the sinus, which re-opened. Bleeding stopped spontaneously, and has not recurred. Patient has still normal temperature—in morning, pulse 88. Tumor perfectly still and much reduced in size. Some pulsation apparent in region of the ligatured vessel. No carotid, temporal, or radial pulse." "Violent hemorrhage took place on the thirty-ninth day. It was controlled by shot-bags, and has not recurred since—that is, for sixty hours. There was an interval of nine days between the first and second bleedings. The patient, on July 16, declared that he had never felt better, but I expect a fatal result. He has now survived forty-one days." —*Lancet*, July 15 and 22, 1882.

RUSSIAN MEDICAL CONGRESS.—A Russian Medical Congress will shortly be held at Moscow, after the opening of the exhibition at that city. Among the chief subjects of discussion will be papers on the recent epidemic of diphtheria in Russia, and the mutual relations of State Medical Legislation and Local Sanitary Laws.

NEPHRECTOMY.—On July 12th Mr. Christopher Heath excised the kidney in a young child. The organ was the seat of a rapidly developing sarcomatous growth. The operation was completed without much loss of blood, and the condition of the child was hopeful until the following morning; it then somewhat rapidly sank, and died eighteen hours after the operation.—*Brit. Med. Journ.*, July 15, 1882.

DIED, on July 6th, 1882, in Heidelberg, PROF. NIKOLAUS FRIEDREICH, in the 57th year of his age.

Prof. Friedreich had been suffering for several years from an aneurism of the aorta, which proved fatal by rupturing into the pleura. His principal works were the articles on diseases of the heart in Virchow's Handbook, on diseases of the larynx and nose, a work on progressive muscular atrophy, and the paper on disease of the pancreas in Ziemssen's Pathology, and a large number of other valuable pathological papers. Prof. Friedreich was born in Würzburg in 1825, studied medicine, and was appointed privat docent of pathology in that university. After Virchow was called to Berlin, Friedreich succeeded him as extraordinary professor, a position which he held until 1858, when he was called as ordinary professor of special pathology to Heidelberg, where he was also Director of the Medical Clinic, and founder of the Psychiatric Clinic.

—— On July 9th, DR. ANDREW BUCHANAN, late Professor of Physiology in Glasgow University, at the advanced age of eighty-four. He is best known as one of the first who indicated the true nature of coagulation of the blood.

NOTES AND QUERIES.

"A CANULATED NEEDLE."

To the Editor of THE MEDICAL NEWS.

Sir: In your issue of the 15th inst., I notice "a canulated needle" of Dr. George McClellan's, which is a counterpart of my "tenaculum needle," described in the New York *Medical Record*, Oct. 13, 1877. This needle was placed by me in hands of the Messrs. Tiemann in 1876, and perfected and manufactured by them in 1877, and it not only fulfils all the indications of Dr. McClellan's instrument, but has, in addition to a tenaculum and suture needle, a straight or slightly curved needle and a wire-twister attached.

Yours respectfully,
C. J. CLEBORNE, M.D.,
Medical Inspector, U. S. N.

NAVAL HOSPITAL, PORTSMOUTH, N. H.,
July 24, 1882.

[WE are in receipt of numerous letters of the above tenor, in reply to all of which we may say that it is only claimed for the needle described in our issue of July 15th, that it is a convenient adaptation of an instrument which is well known to be old in principle.]

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 25 TO JULY 31, 1882.

RAYMOND, H. J., *First Lieutenant and Assistant Surgeon.*—To proceed at once, with necessary attendants, from Whipple Barracks, *via* Fort Verde, to the scene of recent engagements with hostile Indians, near General's Spring, and bring in those wounded to Fort Verde, and remain in charge of post hospital there until further orders.—*S. O. 112, Department of Arizona, July 19, 1882.*

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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ORIGINAL LECTURES.

ON THE USE OF CERTAIN INSTRUMENTS IN THE TREATMENT OF SKIN DISEASES.

A Clinical Lecture,

BY GEORGE HENRY FOX, M.D.,

CLINICAL PROFESSOR OF DISEASES OF THE SKIN IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

(*Specially reported for* THE MEDICAL NEWS.)

GENTLEMEN: The treatment of skin diseases was formerly considered to lie within the domain of surgery, and external measures were chiefly relied upon for their cure. It is only within recent years that the internal origin of many skin diseases has become thoroughly appreciated, and to-day dermatology is justly considered to be simply a branch of general medicine. There are certain diseases, however, which require surgical treatment, and to these and a few simple instruments which are commonly employed by dermatologists I will invite your attention to-day. Of cancer in its various forms, and other malignant affections involving the skin and requiring removal with the knife, I will not speak, since these naturally come under the notice of the surgeon. There are certain special instruments, however, which are solely used in the treatment of skin affections which it may be well for you to possess, and which, I hope, you will have frequent occasion to use.

The first and simplest of these is a short silver tube, with a calibre about the size of a fine knitting needle, which I term the comedo-presser or extractor. The end of this should be carefully rounded so that it will not scratch or otherwise injure the skin. In many cases of comedo, whether occurring alone or associated with acne, this little instrument will be found to be almost indispensable. You know it is a very common custom for patients suffering from acne to press out the little black-heads, as they are termed, either by means of the thumb-nail or an ordinary watch-key. The watch-key commonly answers the purpose; but, as the hole is square instead of round, and the end is often rough, delicate skins are not infrequently caused to suffer from its use. A number of small instruments have been suggested as substitutes for the watch-key, but a silver tube I have found to be of the greatest value.

We have before us a young woman with pustular acne. Interspersed among the small papules and pustules are numerous projecting black specks which you will recognize as comedos or comedones. As inflammation of the sebaceous glands, which is the essence of acne, is very apt to be excited by the presence of this inspissated sebum in the ducts of the glands, one of the first steps in the treatment of this case will be to remove these fatty plugs; by carefully applying the end of the tube over the black dot and giving it a quick, sharp pressure, the comedo is expressed from the duct with the greatest of ease and commonly with no pain. It is not a pleasant operation, to be sure, and you will find some patients who will wince under this treatment. When the comedos are very dry and hard, it may be found advisable to have the patient steam the face before using the instrument. This can easily be done by placing the patient's face over a vessel of boiling water for a few minutes, the head being covered by a towel. There is always a tendency for the ducts to refill after their evacuation; but if the skin is stimulated by the daily use of soap, the glands will soon resume their natural action. You will notice that the use of this instrument produces a small red spot wherever it has been applied, showing that the skin is in an irritable condition. In some cases you will find the skin so irritable that this simple operation of pressing out the comedo will produce a small whitish lump or wheal similar to that which follows the bite of a mosquito. Where this irritability of the skin exists in a case of acne, you may depend upon it that there is dyspepsia or some underlying condition which aggravates the acne, and it will be impossible to effect a cure without resorting to internal treatment.

This patient tells us that the pustules occur in successive crops, and that they are specially apt to appear during the week preceding her menstruation. Most of the pustules run a rapid course and disappear in a few days or in a week's time. Occasionally deep-seated pustules are formed which do not tend to spontaneous evacuation, but produce subcutaneous nodules which remain for several weeks, or even longer. These give rise to a little pain at first, but soon form firm, painless tumors. The patient is often tempted to prick these large pustules with a needle, which, however, has no beneficial effect. To secure their speedy removal it is necessary to treat them as small dermic abscesses and to open them freely.

The next instrument to which I call your attention is one which is adapted to this purpose. It is, you see, a small spear-shaped lancet, with a shoulder upon either side, which presents the point from going too far into the subcutaneous tissue. If with this instrument we merely puncture the true skin, a drop or two of blood is caused to flow and the lump remains. If, however, we press it into the nodule until the shoulder reaches the surface of the skin, we generally succeed in evacuating a little pus or a small amount of cheesy matter. The wound will heal quickly under these circumstances, and the indurated nodule will be found to have disappeared. In the treatment of all cases of acne indurata a more rapid improvement can be obtained by the use of this acne lance than by any other method of treatment.

The next instrument which I show you is a small kidney-shaped knife or lancet which is used for the purpose of scarification. This instrument varies in its form, and some prefer to use a multiple scarificator, consisting of ten or twelve knives placed side by side, about a millimetre apart. A single blade, however, I think, will usually answer the purpose of scarification; and after a little experience, the parallel cuts may be made very close to each other. This instrument has been recommended for use in a number of skin affections; but the one in which I have found it most serviceable is the tubercular or ulcerated form of lupus, especially when this affects the nose or a part in which loss of tissue is extremely undesirable. The parallel incisions create an amount of inflammation which tends to destroy the morbid cells, and to leave the healthy tissue unimpaired, which would not be the case were a caustic employed for this purpose. In a case of lupus of the cheek, the dermal curette, of which I shall presently speak, or any form of caustic, can usually be employed to advantage, and a smooth scar obtained; but when lupus affects the wings of the nose, as it is very prone to do, our object should not be simply to

destroy the morbid growth, but to do this with the least possible destruction of the healthy tissue. In such a case the results of scarification have proved astonishing, and a nose which seemed almost certain to be wholly or in part destroyed, has healed with a very slight amount of deformity. To use this instrument properly, requires a steady and skilful hand and a certain amount of experience. The parallel incisions should be made as close to each other as possible. The hemorrhage which results can be readily checked by the use of absorbent cotton or a small piece of blotting paper. The cuts heal in a few days, when scarification may be again practised, the incisions this time being transverse to those first made. In a bad case of ulcerated lupus of the nose, this treatment should be repeated once or twice a week for several months. Under this plan of treatment, the ulceration will assume a healthy character, and heal. The morbid growth will gradually disappear, and the final result, though not quickly attained, will prove most satisfactory to both physician and patient. In certain cases of rosacea, scarification may be also employed with advantage. The parallel incisions will usually destroy the fine superficial vessels. Where the nose is considerably enlarged, however, and the cutaneous vessels are very much dilated, the treatment by scarification will generally prove of little service as compared with other methods.

Some of you may be aware that, a few years ago, an English surgeon advocated the use of linear scarification for the removal of superficial vascular nævus or wine-mark. This plan of treatment, however, apparently failed in the hands of all who tried it, save its originator, and has now been generally abandoned. I shall presently speak of a plan of treatment which, in my experience, bids fair to be the only successful method of dealing with this common and disfiguring affection.

Now, let me call your attention to one of the most useful instruments in the surgical treatment of lupus and epithelioma, and one which has been recommended in the treatment of acne, sycosis, psoriasis, and other skin affections. This instrument is the dermal curette—the sharp spoon of the Germans. As you see, it is a small, stout, spoon-shaped instrument, perforated by a circular hole, and resembling the bone-scraper used by surgeons. The instrument may vary a great deal in size and shape, but its purpose is to gouge or dig out of the skin certain morbid growths which are found to be much softer than the normal tissues, however dense or indurated they may feel to the touch of the finger.

The cases of lupus and epithelioma which were formerly allowed to increase in size under inefficient modes of treatment, or submitted to the surgeon for complete excision by means of the knife, are now commonly removed by the use of this instrument.

Our next patient has, as you will perceive, even at a distance, a flattened growth upon the forehead, with a depressed, slightly ulcerated centre, and an elevated waxy margin. This is a case of superficial epithelioma, or rodent ulcer, as it is commonly termed in England. It began six years ago as a small excrescence like a wart. It bled when scratched, and has steadily but slowly increased in size. It is painless, and in its present location would not prove serious if allowed to remain for several years more. At the same time, the patient is desirous of having it removed, and the sooner a growth of this kind is destroyed, the less disfiguring will be the resulting cicatrix. The first and principal point of treatment is to destroy thoroughly the morbid growth. This can be accomplished equally well by the knife, the curette, or by caustics of various kinds. Its removal by the curette is the simplest, quickest, and least painful method which we can adopt. A second point of treatment is to remove all the growth with the least possible destruction of healthy skin. With the curette this can easily be accomplished. Although it feels indurated and harder than the surrounding skin, we will find that this outgrowth will yield readily to the scraping which we are about to employ, while, on the other hand, it would be an extremely difficult matter to dig into the healthy fibrous corium by means of this comparatively dull instrument. The operation is not attended by much pain, and I am sure the patient can stand it without the use of an anæsthetic. You now see how readily the indurated mass can be scraped away, how slight the hemorrhage is, and how quickly we have succeeded in converting the seat of the growth into a patch of raw skin. It is possible now that we have not entirely destroyed all of the diseased cells. To make certain that there shall be no return of the growth, it will be advisable either to cauterize the raw surface, which would give the patient quite as much or more pain than the scraping, or to apply iodoform and tightly bind it upon the raw surface. The application of iodoform, which has been lately recommended in the treatment of lupus, is painless and extremely efficacious in destroying any morbid cells which may remain. It promotes a rapid cicatrization on the ulceration. We will powder the surface thickly with iodoform, cover this with a layer of absorbent cotton, and hold this tightly in place by painting it over several times with flexible collodion. Beneath this dressing the ulcer will probably heal in a fortnight, and possibly without suppuration. The tubercular patches of lupus vulgaris may be successfully treated in a similar way. In Germany, the use of the curette is recommended for the treatment of acne, and I have used it successfully in one or two cases of pustular acne of unusual severity, scraping the pustules and papules relentlessly at intervals of from three to five or eight days. It is only in the severest form of acne that such a harsh plan of treatment, however, would be advisable. To treat the ordinary cases of acne which will come to you in private practice by means of the dermal curette would prove to be the quickest possible means of reducing the number of your patients.

Another important instrument for dermatological purposes, and the last one of which I shall speak, is the electrolytic needle. The use of this implies the possession of a galvanic battery, an instrument which you will doubtless have on hand for other purposes, and the number of affections in which it can be advantageously used is constantly increasing. One of the most important recent advances in dermatology is the operation for the removal of superfluous hair, the development of which reflects no little credit on American dermatology. Until recently ladies afflicted with an unwelcome growth of hair upon the face have sought relief in vain. You may now assure all such who may apply to you for advice that the growth can be readily removed.

I will now bring before you a patient with a few stiff hairs growing from a small mole upon her chin. By destroying them I will best demonstrate the method by which a moustache or beard can be permanently removed. Connected with the negative cord of a battery I have attached a fine flexible steel needle, which I carefully insert into the follicle by the side of oneof these stiff hairs. Grasping the hair with the forceps held in the left hand, I will now ask my assistant to complete the circuit by applying the sponged-tipped positive electrode to the patient's cheek. Electrolytic action is now manifested around the needle by the blanching of the tissue and slight frothing, which those of you who are near will readily observe. I now make gentle traction

upon the hair, which, after the lapse of a few seconds, readily comes away, showing that the hair papilla or matrix of the hair, if I may use the expression, has been destroyed. Pulling out the hairs, or removing them by means of depilatories, is simply a palliative measure. The procedure which you have now witnessed is followed by the complete and permanent absence of hair. The ordinary cambric needles will answer the purpose, although they are more likely to leave a slight pit than the fine needle which I have employed. This operation is a tedious one, and often quite as tiring to the operator as to the patient. The hairs must be destroyed one at a time, and where there are thousands to be removed, as has been the case in several patients on whom I have operated, a considerable amount of time and patience is requisite. To my friend, Dr. Hardaway, of St. Louis, is due the credit of introducing this operation into dermatological practice.

I have already spoken of the treatment of wine-mark by scarification, and called your attention to the disappointment caused by its lack of success in my hands as in many others. I have recently employed electrolysis in the treatment of one or two cases, and succeeded in transforming a dark, unsightly purplish patch into a light pink and far less disfiguring mark. I am not yet prepared to state that wine-mark can be treated by electrolysis with a degree of success equal to that which has attended its use in the destruction of hair, but by the production of numerous minute cicatrices it is easy to improve greatly the appearance of a wine-mark and by further experimentation with this method I trust that the complete removal of such a mark will eventually be achieved.

Having demonstrated to you the methods by which superfluous hair may be removed from the face, an operation which is now thoroughly established, and explained to you the somewhat similar method of treating the superficial vascular nævus, an operation which is comparatively new, it remains for me to speak briefly of the value of the electrolytic needle in the removal of certain facial blemishes of lesser importance.

Telangiectasis.—We will begin with that dilated condition of the capillary vessels which is known as telangiectasis. This affection presents itself in a variety of forms; the most common is that which is seen upon the wings of the nose, either alone or in connection with rosacea. The dilated vessels may be of a bright red hue, or they may appear purplish and tortuous, as in the swollen nose of the drunkard. In either case they are unsightly and call for local treatment. Heretofore this has consisted in slitting up the vessel and applying nitrate of silver or perchloride of iron. More recently multiple puncture or scarification has been employed, but by far the simplest and most effective method of treatment is that recommended by Dr. Hardaway, viz., the use of the electrolytic needle. With a fine and sharp needle, connected with the negative pole of the battery, the dilated vessel is pricked at the point where it appears to emerge from the corium and make its appearance upon the surface of the skin. The circuit being now completed by touching the sponge-tipped positive electrode to the cheek, hand, or any portion of the body, the characteristic blanching is quickly observed around the needle, and in a few seconds the vessel has become white for a short distance from the needle. The object of the operation is to excite enough inflammation at a given point to cut and ligate the vessels as it were, and the number of seconds required to accomplish this end will depend upon the strength of the current, and the distance between the electrodes. Here is a well-marked case of rosacea in a man who is evidently not an advocate of total abstinence—in practice, at least. You see the swollen and tortuous venules upon the sides of the nose, slightly elevated above the level of the skin. In this case we will use twelve cells of a zinc-carbon battery, and apply the sponge to the patient's cheek. You now see the chemical action taking place in the tissue around the needle, and those of you who are near enough can see the bubbles of hydrogen coursing through the vessel and its branches, like the blood corpuscles seen beneath the microscope in the web of a frog's foot. To destroy all of these vessels upon the side of the nose, it is necessary to introduce the needle repeatedly, and allow it to remain each time from five to ten seconds.

In this next patient, a young woman who has come to the clinic on account of another skin affection, you notice upon the cheek a small, bright-red point from which a few fine tortuous vessels radiate. Its spider-like form has given to this affection the name of *nævus araneus*. The patient states that the spot made its appearance a few years ago without any known cause. Very likely it resulted from the prick of a pin or some other trifling injury. It manifests no tendency to increase in size and gives the patient no annoyance, but still she is willing and even anxious to have it removed, if this can be done without much pain. I now insert the point of the needle in the centre of the red spot, which naturally occasions a slight pricking sensation. The patient will now grasp the moistened sponge connected with the positive cord of the battery, and she now undoubtedly experiences a sharp stinging sensation, which is by no means agreeable, although it is not particularly painful. You see that the redness has already disappeared, and in about a minute or two, having now removed the needle, a slight swelling will take place similar to that which usually follows a mosquito bite upon a delicate skin. The result will be a destruction of the bloodvessels and a fine punctate cicatrix, which will be unobservable except upon the closest inspection.

Angioma.—In one or two patients who have been partially stripped in the clinic, I have called your attention to the existence of numerous little vascular tumors of the size of a pinhead or lentil, and projecting slightly above the surface of the skin. These small angiomata are of no consequence when situated upon the body, but when, as occasionally happens, they occur upon the face, it is a very easy matter to destroy them by this simple operation.

When they are as large as a small pea it is advisable to introduce two needles, one connected with either cord of the battery, and have their points almost touch. Angiomata of larger size (the vascular nævus described in works on surgery) can usually be successfully treated by introducing two or more gold-plated needles of larger size. A preferable plan of treatment for these vascular growths, however, and one which I hope soon to have the opportunity of demonstrating is the application of the ethylate of sodium.

Nævus Pigmentosus—Let me call your attention now to another trifling affection of the skin, which is so common that it may be found upon the skin of a large minority, if not the majority, of healthy persons. I refer to the little pigmented spots which like permanent freckles are so often found upon the face, the backs of the hands, and upon covered portions of the body. They are either congenital or develop in early life, and in persons of a dark complexion they may be very numerous. Usually they are not much larger than a pin's head. I will pass around the photograph of a man who had an unusual number of these small pigmentary nævi upon his arms and body. I remember this patient telling me that, although the spots never disappeared, they were much darker in summer than in winter, even upon the covered portions of the body.

Such spots when not elevated above the surface of the skin occasion no annoyance whatever, except when they happen to occur upon a ladies' face. Treatment now becomes an important matter, and again electrolysis comes in play. It is not necessary to insert the needle into the deeper portion of the skin, for you will remember that the pigmentary deposit is situated in the cells of the epidermis just above the papillary layer of the true skin. All that is necessary is to produce a small blister upon the surface of the black spot, and by touching it repeatedly with the point of the needle, we can accomplish this end as readily as by the application of a caustic, and with less likelihood of leaving a noticeable scar. For pigmentary nævi of large size, I will not recommend the electrolytic needle, as I have had no experience in its use in such cases.

Fibroma Simplex.—Upon the cheek of our next patient, a woman of forty-five, you see a little excrescence of the size of a small pea. Such a growth is commonly spoken of as a "wart" or a "mole." Frequently it is pigmented, and the seat of a few stiff hairs, and is called *nævus verrucosus.* The growth in this case is of firm consistence, with a smooth surface and slightly redder than the surrounding skin. It is simply a hypertrophic growth of the fibrous tissue of the corium, and constitutes a blemish which is very frequently seen upon the face of persons of middle and advanced age. Its removal is by no means imperative, and the fear expressed by our patient that it is likely "to turn into a cancer" is unfounded. There are ladies who affect to regard an unsightly excrescence of this kind as "a thing of beauty," but you will find that when they learn that it can be removed with very little pain, and without the use of a knife, they will be very willing to part with it. In this case we will use fifteen cells of our constant current battery, and transfix the growth with the needle upon a level with the surrounding skin. You now see that the growth is turning white from the action of the current, and that the needle can be moved forward and backward with perfect ease. We will now transfix the growth again, the needle being at right angles to its former direction, and allow the electrolytic action to proceed as before for about ten seconds. What will be the result? For about twenty-four hours the growth will be slightly swollen and inflamed, and although it is not necessary, it may be advisable for the patient to keep a hot fomentation over the part. In a few days the growth will shrivel away, possibly forming a minute crust or slough, and in a few weeks there will be nothing but a slight cicatrix to denote the site of the operation.

In the cases of multiple fibromata which occur upon the body and extremities, the tumors are usually too large for this treatment, and they should be removed, if it is deemed necessary, by the knife or galvanocautery.

Xanthoma.—Another facial blemish, which you may be called upon to treat, is the affection which is known as xanthoma or xanthelasma. This appears usually in the form of oval yellow patches upon the upper eyelids near the inner canthus of the eye. One or both upper lids may be affected, and in some cases fainter yellowish patches are noticed beneath the eye. Patients affected with xanthoma are apt to have hepatic derangement, and to present a sallow complexion with dark rings around the eyes. The principal, if not the only, treatment which has been employed in these cases is excision, a remedy which, in the estimation of many patients, is worse than the disease. In the case of a lady who recently applied to me for treatment of xanthoma and, and who was averse to any cutting procedure, I resorted to the use of the electrolytic needle and succeeded in removing the growth. I will not presume to recommend this plan of treatment on the strength of my limited experience, but I shall certainly adopt it in the next case with which I have to deal.

There are some other cutaneous affections in which the electrolytic needle might be employed to advantage, but what I have already said will give you an idea of its value and extended application. It acts like a caustic in destroying the cutaneous tissue, but is more efficient in many respects and under our control to a far greater degree than any ordinary caustic which could be used. It is not a true caustic in an etymological sense, for it destroys tissue by chemical action, and not by the generation of heat as in the platinum wire connected with a galvano-caustic battery. And now, before closing, let me say a few words in answer to questions which might otherwise be asked respecting the character of the battery employed for the purpose of electrolysis, and the number of cells which it is necessary to use. It seems almost superfluous to say that the battery should be of the kind which is known as the galvanic or constant current battery, and yet I have known physicians to attempt the use of electrolysis with a faradaic battery, *i. e.*, one with an interrupted current, which is wholly unsuited to the purpose. The galvano-caustic battery, though producing a constant current, is constructed for the sole purpose of heating a platinum wire, and is equally unsuited for electrolysis. There are a variety of galvanic batteries with different elements, any one of which will answer the purpose of electrolysis, but the ordinary zinc-carbon battery is the one commonly employed. I have used here in the clinic a chloride of silver battery with cells hermetically sealed, and which is therefore adapted to being carried about. It can be tipped over without any danger of ruining a carpet by spilling the contained fluid, but it is an expensive battery, and one very liable to get out of order, and hence not to be recommended for general use. The battery which has given me the most satisfaction is the zinc-carbon battery, manufactured by the Electro-Medical Manufacturing Company, of this city. It possesses electromotive force in a high degree, is very simple in construction, not liable to get out of order, and easily repaired when this becomes necessary. It is constructed with a varying number of cells, but the twenty-cell battery is the size which I should recommeud for use in the treatment of the affections of which I have spoken. This battery is so constructed that if a few of the cells are exhausted the remaining ones can still be used. In the operations to which I have referred, from ten to fifteen cells may be required. If the battery fluid is fresh, the sponge in connection with the positive electrode well moistened, and applied to the skin as near as possible to the needle, the current will be at its maximum strength, and a smaller number of cells required than when the battery fluid is weakened by use, the sponge dry, or nearly so, or when the circuit is completed, by placing the positive electrode in the patients hand—and the resistance to the current thereby increased. These points being borne in mind, a sufficient number of cells should be employed to produce the desired effect, viz: a gradual dissolution of the cutaneous tissue at the point where the needle is inserted. It is always advisable to introduce the needle before completing the circuit, and to break the circuit before withdrawing the needle. By observing this rule an unpleasant shock may be avoided.

ORIGINAL ARTICLES.

TWO CASES OF RUPTURE OF THE MEMBRANA TYMPANI CAUSED BY DIVING.

BY H. AUGUSTUS WILSON, M.D.,

OPHTHALMIC AND AURAL SURGEON TO ST. MARY'S HOSPITAL; PATHOLOGIST TO THE PRESBYTERIAN HOSPITAL OF PHILADELPHIA, ETC.

I HAVE seen two cases resulting from the same cause, and presenting symptoms so different, that I am led to record them; not on account of the rarity of the occurrence, but because I hope the subject will be found to be an interesting one for consideration.

Traumatic rupture of the membrana tympani, caused by diving into water, seems to be a rare accident, judging from statistics. I believe, however, that the reason comparatively so few cases are reported will be found to be either that the rupture was not recognized, or else that the subject was not considered sufficiently important.

In the vast majority of cases the actual lesion is not recognized. The incorrect assurance that there must be water in the ear, and that there is no danger, does much toward tranquillizing the patient, and at the same time preventing his seeking proper and timely attention.

It may be of interest to note that, out of 1652 cases of ear diseases treated in the Eye and Ear Department of the Massachusetts Charitable Eye and Ear Infirmary[1] during 1872, there occurred only three cases of traumatic rupture, but no cases are mentioned as caused by diving. I could as readily quote from the reports of other and similar institutions, but I believe it would be to little advantage, for reasons already mentioned.

CASE I.—Charles K., aged twenty-seven, said that while swimming he dived from a height of about twenty feet, and as he struck the water he heard a very loud noise, which he likened to the firing of a cannon. When he arose to the surface, he found that he heard very indistinctly with his left ear, but his own voice sounded loud and harsh. Testing his acuteness of hearing with a watch that should be heard at fifty inches, I found that he heard it at two inches, while a tuning-fork of low note could be heard very distinctly at ten feet. His perception of high notes was very defective, and his attention was first called to this upon his arrival home, when he found that he could not hear distinctly his mother's voice (a soprano), while his father's (a very deep bass) was quite plainly heard. With each inspiration a loud roar was heard, and it was this annoyance more than anything else that caused him to seek advice.

The diagnostic tube readily confirmed the diagnosis, already made, of perforation, which was found, upon investigation with the otoscope, to be triangular, with the base in the lower anterior quadrant, the apex extending to within a line of the handle of the malleus, and falling inward.

CASE II.—A boy, ten years old, dived from a small boat, and said he thought he must have struck the bottom of the river, for he "heard something crack." Upon coming to the surface, he is represented to have fainted—probably aural vertigo. Upon regaining consciousness, he said he had a "funny feeling" in the right side of his head, and was very dizzy. I saw him about an hour after the accident occurred, and, from his account, was led to examine his head, but found no abrasion, contusion, or depression. He had not noticed any loss of hearing, and was but slightly annoyed by a whistling sound in his right ear when he blew his nose.

I found a curvilinear slit in the upper, and extending into the posterior, portion of the membrane. Hearing, $\frac{18}{60}$. The Eustachian tube was remarkably patulous.

The treatment was the same in each case, and consisted of first thoroughly drying the parts with absorbent cotton; secondly, painting the membrane with collodion. By a little manipulation I was enabled to bring the apex of the triangle, in case I., up even with the rest of the membrane, and securing it there by the adhesive properties of the collodion.

Collodion was resorted to because it was at hand, and I knew it would not exert any deleterious effect upon the tissues with which it would come in contact. The fact that it had been recommended by Critchett in cases of relaxed membrane, suggested its use in these cases. Mucilage of acacia or some similar unirritating substance might be employed for the same purpose. I consider the method of application of greater importance than the material used. With the aural speculum in place, a concentrated reflected light should be thrown upon the membrane, which is then most delicately painted with collodion on a very fine hair pencil. As the collodion dries, the torn portions are brought into place.

I did not see either case for some time, because they thought they were doing well, and needed no further treatment. When I saw Case I., fifteen days after the injury, the wound had entirely healed; and the same condition was noted in Case II., ten days after the accident. The hearing in Case I. was normal, and in Case II. two-thirds. The possibility of his acuteness of hearing never having been up to the standard, may account for this apparently imperfect result.

The hemorrhage, if any was present at the time of the injury, had ceased before I saw the cases. Had any clots been present upon the membrane, it would have been proper to have carefully removed them, that the sides of the lacerations might have been brought into contact and plasma thrown out, so that the parts could unite, in the same manner as wounds of any other structure. In Case I. a drop of coagulated blood was noticed in the external auditory meatus, some distance from the membrane, which was removed for the sake of cleanliness.

The mechanism of the rupture is not difficult of explanation. The water, forcibly impinging upon the column of air in the external auditory meatus, suddenly increased its pressure upon the membrane, while the normal pressure upon the inside remained unchanged. The Eustachian tube permitted the air to escape from the middle ear, and thus it will be seen that there was no resistance given to the

[1] Arch. of Otology, vol. iii., 1872, p. 84.

internal column of air. The internal force of resistance being suddenly exceeded by the external impinging force, the rupture ensued. To prevent rupture when diving, it is necessary that the pressure upon the membrana from without should be compensated for by an equal resisting pressure from within. To accomplish this, a full inspiration should be taken prior to diving; the mouth kept shut; and, to prevent the escape of air by the nose, the posterior nares should be closed by elevating the soft palate. This is done almost involuntarily, and retains the inhaled air in the lungs, buccal and aural cavities, its compression being produced by the contractions of the chest and cheek muscles. The act of swallowing will force sufficient air, through the Eustachian tube, into the middle ear to resist the pressure from without.

Holding the nose is not essential to the closure above referred to, but is a crude method of accomplishing the same result, and is resorted to by those who either have not sufficient control over the palatine muscles, or who do so through fear of swallowing the water.

During the construction of the South Street bridge in this city, I spent some hours in one of the iron cylinders upon which the bridge rests, and was under a constant pressure of two atmospheres (thirty pounds to the square inch), and then learned the practical importance of increasing the density of the air within the ear cavities commensurable with the pressure from without.

The most common method of accomplishing the auto-inflation is by frequent swallowing with the mouth and nostrils closed; but the great difficulty experienced in repeating the act, without taking food or drink, makes its use inconvenient and often impossible. Valsalva's method of holding the nose and mouth shut and blowing is more practicable, as I found by experience.

It may be interesting to note that when the pressure was diminished, just prior to our coming out of the cylinder, the air in the middle ear escaped through the Eustachian tube in little spurts, and not in a full stream. This was undoubtedly owing to the valve-like action of the tube.

I believe that when rupture of the drum-head occurs in diving, the sudden application of the force is an important element in its production. If the force were applied gradually, time would be allowed to reinforce the membrana tympani by a cushion of air retained in the middle ear. It is not unusual for rupture to follow the discharge of heavy guns, and cases have occurred where a simple slap on the ear with a hand has been productive of the same result; in all such cases the mechanism appears to be the same.

In the great majority of cases there is only a simple slit, as in Case II., and the edges will readily coaptate and unite by the natural processes of repair. But when the rupture is more than a simple slit, I doubt if a perfect closure will ever occur without some such assistance as was afforded in Case I.

Valsalva, by a series of experiments upon dogs, abundantly demonstated the fact that a rupture or perforation of the membrana tympani is as capable of repair as wounds of other structures in the body, and practical experience with the human subject substantiates this statement. The results of lacerations of this structure are not as serious as might be imagined; for, besides her reparative power, nature possesses the faculty of ready adaptability to circumstances. The cicatrix that remains, in proportion to its extent, contracts and distorts the membrane, and renders it less pliable, and its appreciability for certain sounds may be impaired, yet its general usefulness is not materially changed.

I very well remember a classmate who, by an accident, was so unfortunate as to have a sharp lead-pencil point thrust through his membrana tympani. He had a few days previously carefully tested his hearing while trying to ascertain the hearing distance of his watch. Ten days after the accident referred to, it was found that his acuity of hearing was unimpaired.

After a rupture of the drum-head, if the parts do not unite, there will be left a permanent opening, and the inconvenience caused by air whistling through it is not the only thing to be dreaded. The delicate structure of the middle ear being directly exposed to the action and changes of the atmosphere, serious inflammatory changes are apt to take place, and purulent discharges and permanent impairment of hearing result.

The eye being exquisitively sensitive to the slightest touch takes cognizance of the presence of the most minute irritant, and prompts the patient to seek immediate relief. The absence of this sensibility in the ear is very frequently the cause of neglect to attend to it when injuries of this organ take place.

THREE CASES OF RETAINED PLACENTA.

By E. SANDERS, M.D.,

ATTENDING PHYSICIAN TO MT. SINAI HOSPITAL DISPENSARY, DEPARTMENT OF INTERNAL DISEASES, NEW YORK.

Cases of retention of the placenta, from one cause or another, are not so commonly met with that they are lacking in special interest, nor yet so rare as to be unworthy of particular attention, save as objects of our curiosity. Though all such cases are naturally characterized by the one important element—retardation in the expulsion of the placenta, yet the causes which bring about this delay, and the seat of this retention, vary greatly in the different cases. Thus morbid adhesion, abnormal or irregular uterine contraction, uterine inertia, unskilful or violent interference, etc., may produce such a result, while, as regards the situation of this retention, we may find the placenta still wholly within the uterus, or partly within the womb and partly within the vagina, or even entirely extruded into the vagina, as occurs in the so-called "student's placenta." It has been my lot during the past few years to meet with three such cases, differing in degree and kind, and dependent upon different and well-marked causes.

Case I. *Dead macerated fœtus in a primipara, softened and partly disorganized placenta, funis torn away, placenta retained by tonic uterine contraction.* —Was called in haste to attend Mrs. B., a primipara. Patient had been delivered of a dead, macer-

ated fœtus, after an easy labor under the charge of a midwife, having reached the beginning of the ninth month. Up to this point the labor had been perfectly normal, but the placenta not being immediately discharged, and there being some hemorrhage, she had attempted to forcibly deliver it by traction on the cord, having previously administered several doses of ergot. As a result, the funis had suddenly given way, the placenta remaining behind, the seat of rupture, as afterwards determined, being at its attachment to this organ. On arriving, I found the patient blanched, extremely feeble, emaciated, and almost pulseless. She had lost considerable blood, but when I reached her the hemorrhage had ceased, as had also all uterine pain. I immediately administered stimulants. A vaginal examination revealed the placenta partly within the vagina and partly within the uterus, being tightly grasped by this organ, which was firmly contracted around it, grasping it so that I found it impossible to hook it down with my fingers. Attempts in this direction also failed for the further reason that the placenta was so soft and friable as to break down on the slightest traction. I then attempted to deliver with placental forceps, but again failed, portions only coming away in the grasp of the instrument. My patient now being almost moribund, fearing the worst, and this being in my early practice, I requested a consultation. A professed specialist was immediately summoned, an aged and white-haired practitioner, who, after a hasty examination, announced that we were dealing with a case of adherent placenta; in fact, he stated it to be the worst case he had ever met. All this time uterine pain had remained absent, and all hemorrhage had ceased. The patient was placed under the influence of chloroform, and my adviser introduced his hand and withdrew piecemeal what he announced to be almost the entire placenta, informing me that he had scraped away all but a small piece, which was so firmly adherent as to render its removal impossible. Our patient's condition was now such as to indicate immediate danger of dissolution, but under stimulation she rapidly responded, and soon was comfortable. There was no consecutive hemorrhage. Receiving the statements of my consultant as correct, and considering the condition of my patient, although having my doubts, I failed to make any further examination. She was ordered continuance of stimulation and the use of carbolic acid injections. During the night she had some after-pains, and the next day, during a paroxysm of coughing, a mass of disorganized and stinking placenta, fully equal to one-third of the bulk of that organ, was suddenly extruded from the vagina, where it had probably lain for some time, and from that time on my patient steadily improved. Later on it was discovered that she had been suffering for fully a year from phthisis, which accounted for her weak and emaciated condition. A year after this she again miscarried at about the sixth or seventh month, and a few months later she died of phthisis complicated by chronic Bright's with general anasarca.

The points of interest in this case are: (1) the causes and seat of the retention; (2) the inability on my part to deliver by the fingers or forceps; (3) the error of my consultant.

The cause, or rather causes, undoubtedly consisted in part in the condition of the patient and the softened state of the placenta, but also in great part in the ignorance of the midwife. Unaware of the fact that she was dealing with a softened and partly disorganized placenta, but simply wishing to hurry up matters, she first administered ergot, and later made violent traction on the cord. The former agent produced tonic contraction of the uterus, probably just as the placenta was clearing the cervix, the result being that it was firmly grasped partly within and partly without the womb, while the cord, being soft and friable at this moment, suddenly was torn off. So much for untutored ignorance. Fearing that my patient would die on my hands, and being at the time a recent arrival in the medical ranks, I requested a consultation, after my own imperfect efforts had failed. A busy, professing specialist being summoned, overruled my diagnosis, and, announcing his belief here of a firmly adherent placenta, proceeded to deliver, claiming to have done so, with the exception of a small mass which he was forced, so he stated, to leave behind. The next day, this *small mass*, in the shape of about one-third of the placenta, was suddenly popped out during a fit of coughing. So much for tutored ignorance.

As for myself, my efforts proved unavailing simply because I feared to go ahead and do what I knew to be right and proper. Had I depended on self, I could easily have succeeded, since the case presented no special difficulties. The lesson which I learned from this case was that of self-reliance.

Case II. *Antero-lateral displacement of the uterus in a multipara following delivery of the child; retention of the placenta, followed by its expulsion on replacement of the womb.*—Mrs. C., æt. thirty-seven years, in labor with her eighth child. Her previous labors had always been tedious, but in other respects had been perfectly normal. In the present delivery, although the presentation and position were perfectly regular, and the parts well prepared, the first and second stages were rather slow and tedious, the pains being few and ineffective, delivery of the child not taking place until between twenty-seven and twenty-eight hours after the onset of the contractions, and this did not occur until ergot had been administered to whip up the lazy uterus. Hemorrhage but little more than usual. The placenta being slow to come away, a vaginal examination revealed the fact that it was still retained entirely within the uterus. Careful traction on the cord failing, I determined to employ Credé's method of expression, when, on placing my hand on the abdomen over the uterus, the cause of this retention was immediately made manifest, the uterus being markedly anteverted and twisted to the right. Reposition of the womb was followed by easy and rapid expression of the placenta by pressure, no pains occurring at the time. The interest in this case bears simply on the fact of the unusual cause of the retention: an antero-lateral displacement of the womb *after* the delivery of the child, but *before* the expulsion of the placenta. Although anterior displacement of the uterus before

the birth of the child, in multipara who have born many children, is not so uncommon; the condition existing in this case seems to be very rare, for, as far as I am able to determine, obstetrical writers are silent on this subject. Presumably, therefore, uterine displacement sufficient to retard the delivery of the placenta, after the child has been born, has not been met with by such authorities, and its special mention here is of manifest importance. Its detection was not difficult, and the remedy easily applied; its gradual and careful reposition being safely accomplished by external manipulation alone. The causes of this condition existed in the exceedingly relaxed state of the patient's abdominal walls, dependent upon frequent and rapidly recurring pregnancies, as also upon the inefficient uterine contractions, this organ remaining somewhat flabby throughout, not contracting firmly until the placenta was expelled. To indicate how rapidly impregnation has occurred in this patient, I need but to state that, while at present carrying about a child of four months, the next eldest being but fifteen months of age, she is now in the second month of gestation with another. A relaxed abdomen in such a subject can easily be understood.

Case III. *Almost universally adherent placenta in a multipara; great hemorrhage; syncope; delivery by scraping out the uterus; recovery.* — Was called about 7.30 o'clock on Sunday morning to attend Mrs. U., a multipara, æt. thirty-two years, who, I was informed, had been in labor since six o'clock. On my arrival, I found that the membranes had ruptured, and the head was well down in the excavation, the pains being strong and efficient, the presentation and position normal, the parts relaxed, and everything progressing favorably. My patient was observed to be emaciated and apparently very feeble, and I was informed that she had been so weak before labor set in as to be unable to walk. She had suffered some months from an aggravated cough. However, the child was safely delivered at about eight o'clock, its expulsion being immediately followed by great hemorrhage. The child itself was covered from head to foot with stringy and small rounded masses of coagulated blood, a rather unusual circumstance. The uterine pains continued, but without effect either in arresting the hemorrhage or in expelling the placenta. An attempt was therefore rapidly made to deliver it by traction on the cord; but as moderate pulling on this was followed by an appreciable giving way of its structures, this was soon desisted from, it being noticed during this attempt that, on cessation of the traction, the cord was felt to return as far as it had previously yielded, at the same time conveying the impression to my hand of pulling on some unyielding body, and convincing me that the placenta had not descended in the least, but was still retained entirely within the uterus, the cause as yet being unsuspected. Thinking then to employ Credé's method, the hand was placed on the abdomen; the womb was found hard and contracted, large, and globular in shape. All efforts to deliver the placenta failed. Still, in spite of these symptoms, I did not for a moment imagine that I was dealing with a case of adherent placenta; but knowing that here was an instance of dangerous hemorrhage, and feeling that if this was not quickly arrested my patient must die, other means having failed, I rapidly introduced my hand into the uterus, the vagina being found full of clots, when the cause of the bleeding was immediately manifested: the placenta, with the exception of a small portion along the lower segment of the womb, being firmly adherent to the uterine walls. The hemorrhage at once ceased, the uterus contracting rigidly upon my hand. As carefully as possible I proceeded to peel off the placenta, which, adherent along the left antero-lateral wall, was found most firmly attached at the left cornu. The patient lying at the left edge of the bed, and it being impossible to move her, I was forced to employ my left hand; hence, I was working at a disadvantage, more especially as the placenta itself was adherent on the same side. After persisting for fully three-quarters of an hour, and having several times withdrawn my hand, my wrist becoming tired and cramped from the constant contraction of the uterus upon it, I was forced to desist; Dr. Bleything, who had kindly come to my assistance, peeling off the small but very firmly adherent portion at the left cornu, which I had been unable to remove. A few shreds we were forced to leave behind on account of the condition of our patient, she having had one attack of syncope, from which, however, she rallied after copious doses of brandy. Throughout our manipulations it was found necessary to constantly stimulate her, brandy being administered almost *ad. lib.* She became several times pulseless, and received ♏xxx of the tinct. digitalis hypodermically, to which she responded nicely, later on receiving a second injection of ♏xx. The fl. ext. of ergot was also given on two occasions in ʒj doses. Nevertheless, after delivery of the placenta, the uterus contracted imperfectly, necessitating the keeping of my hand over the fundus for between two and three hours, and frequently stimulating it to contraction, which it usually did, by rubbing and pinching it, a slight hemorrhage occurring intermittently. Ice was also placed in the vagina, and finally the uterus contracted firmly and all bleeding ceased. No chloroform was administered. During these entire proceedings the patient had lain cold and exsanguinated, perfectly passive and completely unconscious of her surroundings, continuing in this condition for fully an hour after the bleeding had stopped. Stimulation was continued, and as she became restless, sol. morph. sulph. (U.S.) was given in quantities sufficient to quiet her.

During the day she continued steadily to improve, her temperature the next morning standing at 100¾° in the axilla, rising to 102° in the evening. Slept some during the night, taking also a little nourishment. Carbolized douches were ordered to be used three or four times a day. The lochial discharge was free and as yet not fetid, some shreds of the placenta coming away in it. Treatment was by stimulants, tinct. of digitalis, ♏v., q. 4 h., careful attention to diet, and absolute rest with the head

lying low. This improvement was found the next day to have continued. Some after-pains had occurred, and there was some slight pain on pressure over the uterus, with slight difficulty in micturition, and she complained of feeling excessively weak. The lochia good, not yet fetid, and containing a few fragments. From this time on until the sixth day the improvement was uninterrupted by any bad symptoms, the temperature ranging in the neighborhood of 101°, all pain ceasing, the bowels moving regularly, the appetite becoming better, the lochia abundant though slightly fetid, more especially in the morning, and still containing a few shreds and on one occasion streaks of blood. On the sixth day the temperature suddenly rose to 103°, the explanation for this being found in the unexpected appearance of milk in the breasts. Belladonna ointment was applied freely to the breasts, and quinia given internally, and after a few days the milk vanished and with it disappeared all febrile symptoms. There was no further interruption to a slow but steady recovery, save an attack of syncope on the fourteenth day, due to the indiscretion on her part of sitting up in a chair contrary to orders.

In her previous confinement, which was with twins, two years before, patient informs me that the attending physician stated to her that a small part of the after-birth had "grown to her side," and that he had failed to bring it away. A few days thereafter several fragments were observed to come away, probably portions of the placenta, which seems to bear out this statement.

During gestation with the present child she had been almost constantly ill, for the last four months suffering from a persistent cough with copious expectoration, emaciation, sleeplessness, loss of appetite and strength, but no hæmoptysis; probably a chronic bronchitis. She also noticed a pain low down in the left iliac region, most marked on turning on the right side in bed, often waking her with a scream out of her sleep, so intense was it at times; this having existed during the entire latter half of gestation.

Cases of morbid adhesion of the placenta are confessedly very uncommon, for such is the uniform statement of authors on this subject. The principal and most important difficulty to be overcome in this condition lies in its diagnosis, since, this being made, the indications to be met are plain and simple, and easily carried out. The symptoms, unfortunately, are usually indefinite and not apprehended, the diagnosis generally remaining unmade until the hand has been introduced into the uterus; such, at least, was true of my case. Cazeaux (*Theoret. and Pract. Treat. on Midwifery*, Phila., 1873, p. 876; trans. by Bullock), who gives the best description of this trouble I have met with, sums up the signs and symptoms of placental adhesion as follows:

"Whenever a considerable period of time has elapsed after the labor, without the delivery of the after-birth being effected, and yet the globular form of the uterus, its hardness, and manifest contraction, clearly show that it is striving to detach and to expel the secundines, and where the finger, passed through the cervix uteri, does not detect the placenta, we have every reason to suppose that there is an unnatural adhesion of this mass. The following signs will then confirm our suspicions: after drawing on the placenta by means of the cord, the latter will be found to mount up as soon as it is relaxed; during the contraction the uterine globe becomes harder and diminishes in volume, but after the pain is over it returns to its former condition much sooner and more perfectly than in other cases; and lastly, the existence of this complication is rendered unequivocal by carrying the hand up into the uterus."

It will be observed that in my case all these symptoms were present with the exception of that referring to the change in volume of the womb; but it was not until the last, the introduction of the hand, had been resorted to that the condition of affairs was made out; and this I conceive to be the rule in such cases. Up to this time abnormal adhesion of the placenta had not been suspected, and it was only when the adhesions were actually felt that the diagnosis was reached.

The extent of the lesion is also of interest, since, with the exception of a small segment at the lower part, which appeared to have been detached by the uterine efforts, judging by the hemorrhage that occurred after the birth of the child, the placenta was entirely adherent. Slight adhesion appears to be comparatively not so rare, while its existence to as great a degree as in the present instance I presume to be very uncommon.

As regards the causation, I find myself unable to decide. The patient was in a very much reduced condition, due to an exhausting cough from which she had suffered for months. It will be remembered that there was a history of slight adhesion in her previous pregnancy, during which she had been perfectly well. In neither case was there a history of the slightest injury. She had observed during the present gestation an intense, fixed pain, most marked on turning on the right, over the left side of the uterus, which may possibly have indicated some form of inflammatory change going on in the placenta or its membranes, probably a placentitis, for it was along this wall, as we know, that the placenta was located. Unfortunately this organ was thrown away before I had an opportunity to examine it, hence its condition and the cause must remain unsettled.

MALIGNANT HEPATIC GROWTH PRODUCING SYMPTOMS SIMULATING SCIATICA AND MUSCULAR RHEUMATISM IN THE LEFT LEG.

By BOARDMAN REED, M.D.,

PRESIDENT OF THE ATLANTIC COUNTY (N. J.) MEDICAL SOCIETY, AND PHYSICIAN TO THE SEASIDE HOUSE FOR INVALID WOMEN AT ATLANTIC CITY.

The following case illustrates the importance of searching carefully for obscure or remote causes in all cases of unusually obstinate disease.

Mrs. M., aged somewhat over fifty years, the wife of a Philadelphia clergyman, entered the Seaside House for Invalid Women, early in February, 1882. Upon admission she had a cachectic appearance, and was much emaciated. She walked with great difficulty owing to lameness of the flexor and ad-

ductor muscles of the left thigh. Her bowels were somewhat constipated and her appetite poor. She had been under treatment by a reputable physician, in Philadelphia, for several months. In accordance, therefore, with my rule to continue as far as practicable the line of treatment pursued by the attending physician at home, especially when the case is chronic and the sojourn at the seashore to be short, I desired her to obtain from her physician a brief statement of what he had been doing for her. This was done. The former attendant very courteously wrote me a clear history of the case as then developed. The following is an extract from his statement:

"Mrs. M. came under my care early last October. I found her suffering from subacute inflammatory rheumatism complicated with sciatica. The rheumatism gave way to treatment very readily; also the pain in the nerve. But I found then a want of nerve power in the left limb—the limb affected by the sciatica. My treatment for this has been directed mainly to building up the general health, with some remedies directed to the nerve. The former has mainly been the preparations of cinchona (the alkaloids cinchona, cinchonidia and quinia) with iron, the carbonate and prussiate. To meet the condition of the nerve, she has taken fluid extract of cimicifuga; also pills of iodoform and iron. These were not given simultaneously. She took one remedy say two weeks, then changed to the other."

By the way, it would be well, if all invalids sent to health resorts were furnished with such statements by their medical advisers, especially when still continuing medicines; since they are very often obliged to consult a resident physician, even when this has not been anticipated, and in that event a note explaining the treatment the patient has had may prevent useless if not injurious experimenting with remedies whose effects have been already exhausted or concerning which there are idiosyncrasies.

To return from this digression; a week after Mrs. M.'s admission her lameness had rather increased, though her appetite had somewhat improved. A cursory examination revealed some tenderness at the point of emergence of the left sciatic nerve from the pelvis, and much pain upon movement of the flexor muscles of the thigh on the same side. There was but little pain while she sat or lay still, but though she was a woman of much determination, locomotion was almost impossible for her, even with the help of two stout canes.

The tonic treatment was continued, and small flying blisters were placed on the tender points over the sciatic, and later along the line of the crural nerve. These seemed to afford some slight temporary palliation only. Strong rubefacient liniments were freely used, also on the same regions without result. Some lameness gradually developed in the right thigh also, though it never became so marked as in the left.

It was evident to me that there must be a deep-seated cause for so obstinate and progressive a condition. Such a contracture as was presented on the left side could only be produced by some irritation of the crural nerve, most likely pressure upon it. A rheumatic affection of its sheath would probably have been more favorably influenced by the blistering. Inquiries were made as to symptoms of uterine derangement, but with a negative result. She had always been singularly exempt from the pelvic pains so common in women during the child-bearing age. Still a vaginal examination was insisted upon, and finally permitted. It revealed a hyperinvoluted uterus, which was retroflexed, and with the adjacent structures forced down, as by some pressure from above, to the floor of the pelvis. I found it impossible to pass even one finger into the Douglas culde-sac, so tightly was everything jammed down in that locality. The cervix seemed perfectly healthy. Bimanual palpation discovered the cause of the jam. There was found an abnormal prominence and hardness in the hypogastric and right iliac regions. Percussion showed this hard body to be continuous with the liver. Its thin edge apparently smooth, not nodulated, could be plainly felt, on careful palpation, some four inches below the umbilicus in the median line extending still lower to the right. Three inches below and two inches to the right of the umbilicus there seemed to be a marked thickening of the tumor, which presented a prominence at that point plainly apparent on inspection. The tumor descended with every inspiration, and was not in the least tender on pressure. No pain whatever had been experienced in the liver or abdomen, and there was no jaundice. Even the constipation was not at all obstinate.

The patient seemed to have no suspicion that a tumor existed, even after my examinations. It was ascertained, however, that a growth of some kind had been removed from one of her breasts ten years previous by Dr. John Neill. I examined the cicatrix, and found it beginning to ulcerate.

I considered the abdominal tumor to be a malignant enlargement of the liver, which had crowded the intestines and pelvic organs downward, and especially to the left, thus producing pressure upon the great nerve trunks upon that side more particularly.

The patient was shortly afterward removed home, her husband being informed as to the nature of her malady, and that no improvement was to be expected. Some weeks later she was seen in consultation by Dr. William Goodell, who writes me as follows:

"I saw Mrs. M. for the first and last time on April 17. She was then bed-ridden, very much emaciated, and also jaundiced. Nothing was said to me about her lameness, and I believe that I did not make a vaginal examination. I found, however, a large bossellated tumor, which seemed continuous with the liver, and which I believe to be a malignant hepatic growth."

Shortly after this consultation her death occurred, and I cannot learn that any autopsy was made.

The interesting features of this case are (1) the exceptionally long period which elapsed after the removal of the tumor in the breast before its recurrence; (2) the remarkable absence of pain and of symptoms of hepatic obstruction until within a few

weeks before death; and (3) the transmitted pressure, causing irritation of the sciatic and crural nerves, especially upon the left side, which, however, may, of course, have been due to small cancerous growths in the pelvis.

MEDICAL PROGRESS.

Amputation in Senile Gangrene.—Mr. N. C. Dobson formulates his views as to the advisability of amputation in senile gangrene as follows:

1. He would not amputate in those cases where the patient's strength was fairly good, where there was a fair prospect that a line of demarcation would be formed, where he was not suffering great pain, or where the pain was readily controlled by small doses of opium, and where symptoms of septic absorption were absent.

2. He would advise amputation in all those cases where the patient was not extremely aged— *i.e.*, over seventy-five or seventy-six—in which the pain was very severe, the grangrene rapidly spreading, and in which marked symptoms of putrid poisoning were manifesting themselves; and he would amputate irrespectively of the patency or otherwise of the main artery at the spot selected for amputation—preferring, of course, patency.

3. In cases of amputation under such conditions as he has mentioned, he would amputate above the knee for gangrene of the leg, above the elbow for gangrene of the hand or forearm. Even when the main artery is blocked, the collateral circulation is generally sufficient to carry on the nutrition of a comparatively short stump. This is his reason for a comparatively high amputation. The mere fact of the possibility of rapid healing of a large stump in even very old persons is a sufficiently well established fact in surgery to need no comment. The point he would further insist on is that, with antiseptic precautions, there is usually a minimum stress laid upon the powers of repair, which is especially useful in dealing with such cases as those we are now considering.—*British Medical Journal*, July 22, 1882.

The Duration of Isolation of Subjects of Contagious Diseases.—M. Hillairet, in the name of a Commission composed of MM. H. Roger, Bergeron, and Hillairet, read before the Académie de Médecine a report in reply to the inquiry addressed to the Academy by the Minister of Public Instruction, as to how long a pupil affected with a contagious disease should be kept away from school.

The report considered the following diseases: varicella, variola, scarlatina, rubeola, mumps, and diphtheria, and the conclusions are as follows:

Varicella, whose progress is often irregular, may require ten to twelve days for the fall of the crusts: The isolation should be about twenty-five days.

Variola has a prodromic period of three to four days; four or five days of eruption; three or four days of suppuration; desiccation requires three days; fall of the crusts, six days. Then comes a period of furfuraceous desquamation without definite limit. Isolation should not be less than forty days.

In scarlatina the period of invasion occupies from six to forty-eight hours, or exceptionally three days: the eruption is completed in from five to eight days; desquamation commences on the fourteenth or fifteenth day, and lasts from fifteen to twenty-six days. Isolation should last forty days.

Rubeola has a prodromic period of three to four days; exceptionally, from six to eight, or even twelve days; the eruption is completed in twelve or forty-eight hours, then it declines for twenty-four hours; desquamation lasts from eight to fifteen days. Isolation for forty days will be sufficient.

Mumps, as a rule, has a duration in ordinary cases of six days; convalescence lasts from six to seven days. If any complication of metastasis occurs, it lasts usually about nine days. Isolation for twenty-five days is sufficient.

The duration of diphtheria is very variable, but isolation should be maintained for at least forty days.

The Commission consequently proposes the adoption of the following measures.

1. Pupils affected with chicken-pox, small-pox, scarlet fever, measles, mumps, or diphtheria, should be strictly isolated from their comrades.

2. For small-pox, scarlet fever, measles, and diphtheria, isolation should not be shorter than forty days; for chicken-pox and mumps, twenty-five days is enough.

3. Isolation should last until after the patient has been bathed.

4. The clothing worn by the patient at the time he was taken sick, should be subjected to a temperature of 90° C. [194° Fahr.], and to sulphur vapor and then well scoured.

5. The bedding, curtains, and furniture of the sick-room should be thoroughly disinfected, washed, and aired.

6. The pupil of a school, after recovery from one of the above contagious diseases, should not be readmitted to the school unless furnished with the certificate of a physician that the above precautions have been observed.

These conclusions were adopted by the Academy.—*Gaz. Méd. de Paris*, July 22, 1882.

Iodoform Poisoning.—Mosetig has used iodoform in Listerism in 7000 cases and has not met with poisoning. He explains this immunity by (1) his never employing it in large quantities; (2) by never causing pressure upon it in a wound; (3) by his rarely changing the dressings; (4) by never washing the wounds in dressing them (since absorption takes place more rapidly in granulating than fresh wounds); (5) by his using only pure materials—*i. e.*, iodoform alone; the combination with carbolic acid is dangerous, since the latter is always liable to irritate the kidneys, and may thus hinder the excretion of the iodine set free within the body and give rise to its accumulation in the blood.—*Maryland Medical Journal*, August 1, 1882.

The Third Blood Corpuscle.—The last published number of the Bulletin of the Royal Academy of Medicine of Rome contains a memoir by Prof. Legge, entitled "Observations on the Blood of the Salamander, and of the Triton, concerning the Plates (*piastrine*) of Bizzozero, and the invisible Corpuscles of Norris." We give a literal translation of Prof. Legge's conclusions on this important matter. "1. In the blood of tritons and salamanders, in addition to the white and the red corpuscles, exists a special morphological element, which, if not identical with, is at least analogous to, the blood plates (*placche di sangue*) of Bizzozero. 2. In the preparations of the same blood are to be seen colorless disks, which correspond to the description which Norris gives of his invisible corpuscles. 3. These disks are the result of an operation which the red corpuscles undergo in the presence of water. This confirms what Bizzozero asserts concerning the absence of Norris's invisible blood corpuscle in mammalia. 4. The alterations which red corpuscles undergo in the presence of water are the solution and effusion of the hæmoglobin, the transformation of the nucleus, from the original oval, into a brilliant sphere, and the softening of the

cellular membrane, which finishes by disappearing, leaving free the nuclei, which remain separate and floating in the liquid."—*Lancet*, July 22, 1885.

New Method of Treating Salivary Fistulæ.—At the meeting of the Société de Chirurgie, held July 5th, M. Delens read a report on a work of M. Richelot on this subject. His method consists in forming an internal orifice to the fistula by tying the thickness of the cheek in the grasp of an elastic ligature; after the ligature has cut through, the external orifice closes of itself while the other remains open.—*Le Progrès Médicale*, July 8, 1882.

Treatment of Dyspepsia.—M. Sassezki (*Journ. de Méd. d'Algerie*) has determined, in the cases of three patients suffering from chronic gastritis and four healthy persons, during a phase of profuse sweating, the degree of acidity of the liquid taken from the stomach, the digestive power of the latter on fibrine, and the amount and the degree of acidity of the urine. He found that the sweats weakened the digestive power of the gastric juice, reduced at the same time its acidity, and that also of the urine; and this the more energetically the more abundant the perspiration was. From the practical point of view, the author inquires if, amongst dyspeptics subject to perspiration, it would not be well to try atropine to diminish the perspirations, and to increase, at the same time, the acidity of the gastric juice. He, likewise, is of opinion that this same acidity might be increased by rendering the urine alkaline by means, for instance, of a vegetable diet. He throws out the suggestion, whether the instinct which induces the inhabitants of hot countries to instinctively prefer a vegetable diet, is not to be found here.—*London Medical Record*, July 15, 1882.

The Nervous Symptoms of Myxœdema.—From a careful study of this subject, Dr. W. B. Hadden concludes:

(1) That in the early stages myxœdema is essentially a disease of imperfect nutrition, dependent probably on generalized angiospasm.

(2) That the solid œdematous condition of the skin and connective tissue is due to a form of lymphatic obstruction, which may also be ascribed to vaso-motor influence; and that the accumulated products undergo changes which result in the formation of mucin.

(3) That the condition of the thyroid gland is also to be explained on the vaso-motor hypothesis.

(4) That the more severe mental symptoms, such as insanity, occurring in the later stages of myxœdema, are due to alterations in the brain itself.

(5) That, although myxœdema is a distinct morbid entity, it is probably intimately allied to certain other disorders, such as sporadic cretinism and scleroderma.

(6) That the solid œdema, which is universal in myxœdema, may be localized in various parts of the body, such as the tongue and extremities.

(7) That the primary and essential lesion probably exists in the peripheral sympathetic system, and perhaps, too, in the supreme centre in the medulla oblongata, this last supposition being based on the occasional occurrence of bulbar symptoms in myxœdema.—*Brain*, July, 1882.

Locomotor Ataxy of Syphilitic Origin.—Vulpian (*An. de Dermatologie et Syphilogie*) thought that about forty per cent. of cases of locomotor ataxy were of syphilitic origin. Fournier has just demonstrated that, far from being exaggerated, this statement is rather below the truth—in nearly all he finds a syphilitic source. The practical results of this view are embodied in the following conclusions:

1. In a case of locomotor ataxy seek carefully for syphilis.

2. If this diathesis exist, institute severe and prolonged treatment. Endeavor to surprise the commencing tabes, and watch the least symptom which can indicate its invasion.

3. The fear of ataxia later ought to be considered in the treatment of the initial stage of syphilis, which ought to be treated for a long time energetically.—*Maryland Medical Journal*, August 1, 1882.

Symptomatology of Cystic Degeneration of the Kidney in the Adult.—Communications on this subject are rather scarce in medical literature; clinical observations are rare, but *post mortem*, accidentally, numerous examples are found, symptoms indicative of which have not been noticed during life. In other cases, phenomena similar to those of chronic Bright's disease precede the fatal exit of the patient, or symptoms pointing to some form of renal lesion have been noticed, but passed over as unimportant. A case related by Strübing (*Deutsches Archiv für klin. Med.*, 1882) was that of a woman aged 51, who had been in very good health until her forty-first year, in which hæmaturia, with pain in the region of the kidneys, was followed by progressive marasmus. Nothing beyond hypertrophy of the left ventricle and enlargement of both kidneys could be made out, and albumen was only temporarily present now and again. At the *post-mortem* examination, it was found that, instead of the carcinoma it was expected to reveal, the enlarged kidneys had undergone a total change of structure, being about 20 centimetres (7.8 inches) long, and containing numerous large and small cysts, some of the size of a hen's egg. The contents, on analysis by Baumstark, were found to consist of—1, cholesterine; 2, two albuminous bodies, namely, serum-albumen and a globuline; 3, six grammes of urea to every 100 cubic centimetres of the fluid. Uric acid, leucine, and tyrosine were not present.—*London Medical Record*, July 15, 1882.

Suppositories of Ergotin.—At a recent meeting of the Société de Thérapeutique (*Bull. Gén. de Thérap.*, vol. ii., 1880, p. 43) M. Dujardin Beaumetz stated that, following the example of a Belgian physician, he had attempted the employment of ergotin in suppositories to combat the metrorrhagia of uterine fibromata. These suppositories contained fifty centigrammes (eight grains) of ergotin—that is to say, about five times the amount used in hypodermic injection. He had obtained excellent results in two cases, which had been cured in the first after two applications, in the second after three applications.

In the discussion following, M. Ferrand said he also had employed these suppositories in studying the influence of ergotin on hemorrhoids. One patient, among others, had been relieved of a persistent hemorrhoidal flux after the employment of eight or ten suppositories containing twenty-five centigammes of extract of ergot. This patient had had no return of the flux after more than a month.

M. Vidal said he also had used these suppositories in the treatment of rectal prolapse. He was accustomed to use suppositories containing fifty centigrammes to a gramme of ergotin. The effect obtained had not been as satisfactory as in using hypodermic injections; besides which the patients complained of a very painful burning sensation in the neighborhood of the anus.

M. Ferrand said the dose was not without importance, because of the great difference of sensibility which exists between the mucous membrane of the stomach and that of the rectum: thus, saline enemata

which caused energetic and painful contractions of the intestines produced no such effect when introduced into the stomach. In the patient suffering with hemorrhoids, whose case he had reported last year, he had employed hypodermic injections of ergotin after having been obliged to give up suppositories of tannin, which had been badly borne.

M. Moutard Martin believed that there existed an undoubted difference between the stomach and the rectum with regard to their relative sensibility; besides, the intestinal mucous membrane absorbs more easily, rendering it necessary to use smaller doses than by the mouth. The example selected by M. Ferrand was ill-chosen, because the saline solution employed as an emetic also excites the gastric mucous membrane greatly; but chloral, so well supported by the stomach, often causes severe pain when given in enemata.

M. Dujardin Beaumetz thought that suppositories of ergotin were to be recommended as useful in uterine fibroid. They did not present the same danger as the parenchymatous injection of ergotin in solution into the uterus, which is sometimes followed by fatal peritonitis. The formula for the suppositories might be fixed, for example, as ergotin fifty centigrammes, ol. theobromæ five grammes.

M. Ferrand thought that if these suppositories gave pain they might be reduced in strength and repeated more frequently.

M. Blondeau had employed similar suppositories in a case of retention of urine, and had obtained good results.—*Canada Medical Record*, July, 1882.

Sulphurous Acid in Tuberculosis.—Some experiments by Froschaner on the treatment of septicæmia by sulphurous acid, suggested to Catani the trial of this agent in phthisis, and his experiments are of interest, not only from this practical aspect, but also in connection with the discoveries of Koch. Phthisical patients were made to drink of water impregnated with it, and especially were made to breathe in closed rooms the air of which contained a considerable quantity. The experiments, continued for a considerable time, yielded the following conclusions: Most patients bear the long-continued inhalation of sulphurous acid remarkably well; only during the first few days, before they have become accustomed to it, do they complain. All the cases thus treated became free from fever in the course of a few days, and subsequently remained so. As far as could be ascertained, the local mischief showed no tendency to increase during the treatment, and the amount of expectoration became slighter. The observations are being continued in order to ascertain how far a permanent effect can be produced.—*Lancet*, July 22, 1882.

Diagnosis of Vesical Calculus.—Volkmann's investigations (*Centralb. f. Chir.*, No. 11) on the diagnosis of stone in children is of importance to the general practitioner as well as to the surgeon especially interested in the treatment of these cases. He states that the rectal bimanual examination for stone is of great value. The patient is thoroughly placed under the influence of an anæsthetic until the abdominal muscles are completely relaxed. The bladder is to be empty or but slightly distended; two fingers of the left hand are to be carried as high up into the rectum as possible; the right hand presses upon the abdomen above the symphysis pubis and forces the bladder down towards the rectum until both hands meet. In this way even small calculi can be readily detected, but it needs considerable practice and experience to determine the size of the stone, Volkmann finding at first that the stone turned out to be larger on extraction than he had expected on examination, although distinctly feeling it between his fingers. The best way to determine the size is to lift it up on the os pubis and hold it there; this Volkmann has done in his last four cases, the last stone which he palpated in this manner being as large as a chestnut.—*Boston Med. and Surg. Journ.*, July 27, 1882.

Antiseptic Treatment of Phthisis.—In a volume which he has just publishd on the *Therapeutics of the Organs of Respiration*, Prof. Oertel, of Munich, devotes about 350 pages to the subject of "Inhalations;" in which he speaks highly of the use of a five per cent. solution of benzoate of soda, atomized—*i. e.*, inhaled in the form of fine spray. He has observed a very cleansing effect to follow its use in the ulcerative lesions of laryngeal phthisis; and he infers, from this, that a similar favorable action may be exercised on the lesions of more deeply seated parts; on the bronchial ulcerations and softenings, and on the walls of cavities. The expectoration is facilitated—increased at first, and subsequently diminished. Mycotic processes and decomposition of the secretions are arrested; and the absorption of secretions is thus favorably modified, and is less likely to be pyrogenic or specifically infective. He also points to the importance of thorough cleansing of the mouth and fauces; the appetite is thereby improved, and the stomach is spared the infliction of decomposing oral secretions. The swallowing of a certain amount of the solution he considers of great value, as he believes it operates in diminishing the fever. He duly discredits the marvellous results claimed for this plan of treatment by Rokitansky; but sees no reason to deny the correctness of Schüller's impressions, as to the results of his experiments on animals, performed under conditions very different from those obtaining in the subjects of advanced phthisis. He, moreover, expresses a confident belief that, by this and other antiseptic mode of inhalation, very good effects will be attainable.—*British Medical Journal*, July 22, 1822.

Resorcin in Diphtheria.—Andeer, who has employed resorcin in so many diseases, has recently used it in diphtheria, and states that, in the slighter forms of the disease, a single cauterization with crystalline resorcin, or with a concentrated ointment of resorcin in vaseline, is sufficient to arrest the formation of false membrane; but in cases of greater severity repeated applications are necessary; while in the most severe forms of the disease he recommends that resorcin should be given internally as well as applied locally. We fear, however, that his recommendation of the drug must be received with some caution, since he makes the extraordinary statement that of 222 cases treated thus, not one died. If his diagnosis of the disease was correct in one-tenth of his cases, the result would still be satisfactory. He asserts that the agent appears to be a true specific, influencing the morbid blood state as well as the local process.—*Lancet*, July 22, 1882.

Location of the Muscular Sense.—Westphal (*Charité-Annalen*, 1882) reports a case which throws some light on this subject. The patient was a man, aged 38, who in July, 1879, suffered from delirium tremens. From this he recovered, but on August 7th he became aphasic without losing consciousness. On August 14th, and again on August 19th, he was convulsed on the right side and had symptoms of the so-called atactic and sensory aphasia, but did not lose consciousness. And lastly, on November 13th, he was unconscious for a short time, and was temporarily paralyzed in the right arm. In all of these attacks the motility of the right extremities seemed deeply impaired, but it is difficult to say how far the appearances

were due to actual motor weakness, and how far to the inability to originate a suitable nervous impulse; in other words, to a defect of volition. There was undoubtedly some motor weakness, but it was not permanent, and in a short time the patient always recovered his muscular strength.

But in addition to these motor symptoms there were sensory symptoms, and these were permanent. They were observed with great minuteness from October, 1879, to December, 1881 (when the patient died somewhat suddenly), and were never found to exhibit much variation. There was a marked impairment of the muscular sense of the right upper extremity. The right hand was used very clumsily, and the patient seemed unconscious of the position of the upper extremity and of the movements it made. In the right lower extremity there was scarcely any affection of the muscular sense. Sensibility was diminished in the right side of the body and in parts of the face. There was bilateral right hemianopsia.

The *post-mortem* revealed a lesion implicating the whole of the parietal lobe (including the ascending parietal convolution), the greater part of the occipital lobe, and a small portion of the temporo-sphenoidal lobe. Here the pia was adherent to the cortex, the gray matter was softened, and of a yellow color, and the convolutions were atrophied. The atrophy was less noticeable in the posterior part of the angular gyrus than elsewhere. The cortex only was involved. The rest of the brain was normal. This condition of the brain reminds us of general paralysis, but Westphal is of opinion that the two processes are essentially different.

Westphal attributes the hemianopsia to the lesion of the occipital convolutions. He is unable to say whether the loss of muscular sensation is dependent on the lesion of the ascending parietal convolution or on that of the remaining parietal convolutions.—*Brain*, July, 1882.

Injection of Medicated Substances into the Lung-tissue.—Records of experimental attempts to deal directly with the lung-tissue, whether for the treatment of existing disease or for physiological purposes, are to be found but sparingly in medical literature. Dr. E. Fraenkel records (*Deutsche Med. Woch.*, No. 4, 1882) a whole series of experiments made with a view to the study of the effects produced by the injection into the lung-tissue of various medicated substances: 1. Upon the local tissues. 2. Upon the general organism. He used the following substances: carbolic acid, in a strength of 1, 2½, 4, and 5 per cent.; 4 per cent. watery solution of boracic acid; 5 per cent. of iodoform in olive-oil; 2, 4, and 5 per cent. solutions of acetate of alumina. Rabbits were used for the experiments, and the injections were made with a syringe fitted with a very long and fine canula. The number of daily injections varied from one to six, and the amount injected each time was always the same, 1 gramme. In hardly any case was there any reaction produced, a slight cough here and there being the only symptom. Even when the animals were kept alive for weeks, no changes took place which could indicate any spreading affection of the parenchyma of the lung, and physical examination invariably gave a negative result. Some of the animals gained considerably in weight. The pathological results obtained are classed as primary and secondary. The first consisted of hemorrhage into the lung-tissue and into the pleural cavity; but in neither case was it of importance, for the most part becoming absorbed, and in only one or two cases leaving a slight pleural adhesion. The secondary results consisted of local infiltrations and cellular proliferation in the lung-tissue, but in every case these were found to remain local, and to show every tendency towards healing. From the stand-point of these experiments, and from certain other clinical facts, Dr. E. Fraenkel states his conviction that the human lung, also, will come to be regarded as an especially adapted organ for the reception, by parenchymatous injection, of antiseptic remedies. Cases of progressive chronic phthisis he regards as particularly indicative of this method of treatment, especially in the earlier stages of catarrh and infiltration of the apex; and he looks to it to alter the character of the inflammation in the already affected spots, and to assist the natural tendency of the healthy tissue around to throw out a protecting barrier of inflammatory material. In cases, also, of gangrene of lung and putrid bronchitis, the injections might be of service. In one case of this latter kind, injections of five per cent. carbolic lotion were employed, and, although no improvement was observed, there was also no trace of any injury having been suffered by the lung.—*London Medical Record*, July 15, 1882.

Resection of the Pylorus in Italy.—This operation has just been performed for the first time in Italy by Professor Caselli, of the University of Genoa. The patient was a female, who had been admitted to the hospital with symptoms which pointed to closure of the pyloric orifice of the stomach by a neoplasm presumably of a carcinomatous nature. In the operation itself there was no feature of particular interest, except the severe shock from which the paient suffered almost from the first incision. The time occupied was two hours and a half. To secure the stomach to the duodenum, and to sew up the organ itself, about fifty sutures were employed. The portion excised was elliptical in form, and measured four inches and a half in length by three and three-quarters in breadth. The operation itself, in all its details, was successfuly completed; but the patient unfortunately sank from shock a few hours after her removal to the wards. The necropsy confirmed in every respect the correctness of the diagnosis, and showed, moreover, that all the other viscera were perfectly free from cancerous infiltrations. The operation, therefore, was a thoroughly legitimate one. Moreover, from the excellent position in which the stomach and duodenum were found after death, there is little doubt that, had the patient's vital powers held out, the result would have been a most brilliant one.—*British Medical Journal*, July 1, 1882.

Operative Treatment of Necrosis of the Vertebræ.—M. Boeckel reports the case of a woman, aged forty-three years, in whom an abscess formed between the left scapula and the vertebral column. On opening it, it was found that the third rib was necrosed and a piece four centimetres long was resected; on further exploration of the wound, the lateral half of the bodies of the second and third vertebræ were found to be carious, and a quantity of dead bone was gouged out, and antiseptic dressings applied. Three months afterwards, although the wound was not completely healed, the woman's condition was greatly improved. —*Revue Scientifique*, July 15, 1882.

Treatment of Genu Valgum.—At the Congress of the German Surgical Society, held in Berlin on June 1, Schede, of Hamburg, read a paper on this subject, in which he mentioned thirty-three cases in which he had performed fracture of the femur, and thirteen similar operations of the tibia for this condition. He thinks the operation is especially suited to children between the ages of two and five years; after about a week the child is able to stand, and in four to eight weeks healing is complete.—*Berliner klin. Woch.*, July 10, 1882.

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THE GRAPHICAL METHOD AS APPLIED TO THE FEET.

IT is often surprising how slowly a good method of study advances. The graphical method of studying the feet was begun thirty years ago, and yet in spite of this and of the brilliant results of Marey, Ludwig, and a host of others, in the use of the same method for other purposes, it is only of late that it has been systematically applied to the investigation of the physiology and pathology of the feet.

The first to appreciate the value of the method were the medico-legal physicians. Hugoulin, as long ago as 1850, used stearin and gelatine to reproduce footprints of the criminal as a means of identification, and though not strictly graphic, yet doubtless it suggested the method which Caussé published, in 1854, in the *Annales d'Hygiène*, and which in principle, though with ingenious modifications, is to-day still the best. One footprint made evidently by a bare and bloody highly arched left foot was found, and there were eight asserted criminals. He smeared the floor with defibrinated blood. Each of the eight prisoners stepped first on the bloody floor with the bare left foot and then on to a brick. Each impression so made was measured by ordinates and abscissæ, and compared with the tell-tale footprint for identification.

In 1872, Duhousset used moist sand in studying the foot-sole of the Kabyles, and in the same year Volkmann, in Pitha and Billroth's *Handbuch*, presented figures of flat feet obtained by transferring the impression of the blackened foot-sole to paper.

But the real systematic graphic study of the feet we owe chiefly to Hilton, Onimus, and Rohmer. Two methods are practicable; the first by tracing the outlines of the foot, the other by obtaining the impression of the sole of the foot.

Hilton, in his *Rest and Pain*, in 1863, attracted especial attention to the outline method. In many cases of disease not only in the foot, but in the various portions of the lower extremity, he observed that the feet were unequally developed, and accordingly with the patient's feet on paper he drew their outlines by a pencil held vertically, and these he reproduced in many places in his admirable book. Sayre, Judson, and others have followed the method, and it is very simple, easy, and, if due care be employed, reasonably accurate.

The other method was established by Onimus in 1876, and he has published several very valuable papers since then, the most recent being in the *Revue de Medecine* for 1881, and in the *Revue de Chirurgie* for last June.

In 1879, Rohmer, in a Thesis for the Doctorate, presented to the Faculty of Nancy, carried the system even further and applied it to the physiology of this portion of the muscular system with not a little success. After dissecting the muscles from the knee nearly to the ankle, just enough to separate them one from another, but not enough to disturb their relations to the bones, sheaths, etc., he first took an impression of the foot-sole in repose; then by traction on one muscle after another, and on groups of muscles such as would be related in normal action or in disease, he was able to show what variations in the impressions of the foot-sole were produced by the muscles, either singly or in groups.

The method adopted by Onimus to obtain the impression is to smoke the paper by a wick soaked in turpentine, being careful not to burn the paper, as that would obscure the results. The patient then treads on the paper, and where the sole has touched it the paper is bared of lamp-black. The impression is then rendered permanent by a fixative applied by an atomizer. Rohmer uses copal varnish; Onimus, "fusian" varnish. We would suggest that collodion and ether would be equally effective and much quicker in drying. Shellac and alcohol also may be used. One point is not to be forgotten, that the figures either of the outlines or the impressions should be reproductions of the figures on the paper and not of the foot-soles themselves, for in the latter case the right and left foot would be reversed to the reader.

The method has been already fruitful in results. Not only has the physiology of the muscles of the leg and foot been elaborated, and to some extent corrected, but paralysis, contractures, arthritis of the ankle and of the different joints of the foot, contusions, and other injuries, have all been shown to affect the forms of the feet very appreciably,

though the disease be at a distance, and sometimes of cerebral origin.

Three types of foot imprint exist. First, the arched foot, consisting of three distinct imprints, the heel, the cushion under the heads of the metatarsal bones, or "anterior heel," as Duchenne has aptly called it, and the toe-tips. Secondly, the flat-foot, in which the entire sole touches the ground, and thirdly, an intermediate, commonest, and best form in which the imprints of the heel and of the metatarsal pad are connected along the outer border of the foot by a narrower or wider line or band. Any one on getting out of a bath and stepping on to dry paper, or a bare floor, can try the method extemporaneously and see to which of the three types his foot belongs.

Possibly also the cutaneous markings on the sole might be studied with advantage. The Chinese, it is asserted, have a "Rogues' Gallery" of the thumb imprints of their criminals. It might be equally valuable to reproduce their foot-soles in a similar way.

THE RESUSCITATION OF THE DROWNED.

AT this season of the year every intelligent person—physician or layman—should be in possession of definite and easily applied information in regard to the best methods of resuscitation of the drowned. Accidents of the sort are so common, and lives are so frequently lost through neglect promptly to resort to approved remedial measures, or, still oftener, are extinguished, when trembling in the balance, by well-meant but rude and harmful endeavors at revival, that the subject becomes one of general interest and importance.

It is, of course, recognized that the primary indication in the treatment of drowning, as in all cases of apnœa, is to procure the free entrance into the air-cells of the lungs of a sufficient quantity of pure air, which shall oxygenate the poisoned blood and re-establish the obstructed pulmonary circulation. It also is beyond dispute that that method of resuscitation is to be preferred which, while applicable under any circumstances and without a moment's delay, enables the operator to expand the chest of the patient to the fullest possible extent, or, in other words, to supply with each movement of respiration the greatest amount of fresh air. In determining, therefore, the particular form of artificial respiration to be selected in such cases, we may begin by discarding all those which depend for their usefulness upon the employment of apparatus, such as bellows, tubes, etc., which are not always immediately procurable, and we are thus reduced to the utilization of various forms of passive movement of the body and limbs of the patient as the only means of attaining the desired object. This, it should always be kept in view, is full expansion of the chest.

The chief methods by which this is effected are more or less familiar, at least by name, to most persons; but it is often astonishing to find in a case of real emergency how little exact knowledge of the subject exists, and how ineffective the efforts at help are apt to be. They may be classified as mouth-to-mouth inflation, manual pressure, the Howard method, the Silvester or "physiological" method, the Marshall Hall method, and the modifications of these known as Pacini's, Bain's, and De Chilly's methods.

The first of these, in which the mouth of the operator is applied to that of the patient, and air forced directly from the lungs of the former into those of the latter, is open to the objection that the amount thus transferred depends largely upon the muscular force and chest capacity of the person supplying it, and that, even if it be sufficient in quantity, it is necessarily loaded with carbonic acid, and, therefore, not well adapted to respiratory purposes. The method of manual pressure, which consists in bearing with some force—not greater than thirty or forty pounds—upon the lower part of the breast-bone and upper and middle part of the abdomen, and then suddenly relaxing the pressure, and which is practically identical with the method known as "Howard's," has been effectual in some cases. Experiment has shown, however, that by this plan not more than twelve or fourteen cubic inches of air can be expelled and readmitted, and that consequently it is inferior to others about to be described. There is danger, too, that, in making the abdominal pressure, food may be forced from the stomach into the pharynx, and subsequently drawn into the air-passages; and this accident has occurred.

The Marshall Hall method consists in turning the body on the side and a little beyond, and then briskly on the face, alternately; each time the body assumes the latter position, gentle but firm pressure being made over the shoulder-blades and the lower ribs posteriorly. The whole amount of air exchanged by this procedure has been found not to exceed fifteen cubic inches, and often to be much less. The method, as described by its author, is also objectionable for the reason that the first movement which is executed is the one of expiration, thus driving out of the lungs what little air they may contain, and losing a few seconds of time, which might be sufficient, in many instances, seriously to influence the result.

The Silvester method is worthy of more detailed description, as equally easy of application with those already mentioned, as open to none of the objections which may be urged against them, and as securing, when employed with a slight modification,

an exchange of from thirty to fifty cubic inches of air with each respiratory movement. Its purpose is to imitate the action of the pectoral and other muscles passing from the chest-walls to the arms and shoulders, which become inspiratory muscles during deep inspiration, and this is effected as follows, the preliminary instructions being applicable to any of the above methods of resuscitation. The patient should be turned on the face, the mouth opened, the tongue grasped with a handkerchief and drawn forward, and the hips slightly elevated. He should be held in this position four or five seconds, or even twice as long, if fluid continues to escape from the mouth or nose. He should then be turned on the back, a roll of clothing, a cushion or some similar support being placed just below the angles of the scapulæ. The tongue should still be drawn forward and retained in that position by an assistant or by a strip of muslin tied around it and beneath the chin. The operator, standing above the head of the patient, should then grasp the arms at the elbows, and draw them directly upwards and outwards until they nearly meet above the head, thus placing on the stretch the pectoral, latissimus, teres, etc., and elevating and rotating the ribs, or, in other words, imitating the action of forced inspiration. The arms should then be immediately turned and replaced at the side. According to the original plan, as proposed by Dr. Silvester, we believe the movement of expiration was then to be imitated by pressing the arms against the side of the chest, but there is good reason for preferring the modification suggested by the Committee of the Royal Medical and Chirurgical Society, who, at this stage, recommend that moderate pressure be made with both hands on the lower part of the breast-bone. This entire process should occupy about five seconds, so that about twelve complete respiratory movements may be made within the minute. The usual mistake is respect to time is that the movements are made too hurriedly, producing an insufficient, panting respiration. While this is being done, hot or cold water may be dashed over the chest, the limbs rubbed from below upward, ammonia held to the nostrils, and hot coffee or brandy given by enema. When respiration is now fairly established, the patient should be wrapped in blankets, kept strictly in the horizontal position, and conveyed to bed, care being taken that, while the warmth of the body is maintained, the air which is breathed shall be cool and pure.

The subsequent treatment consists simply in the cautious administration of food and stimulants, warm milk and brandy, beef-tea, coffee, etc., until strength is re-established.

The methods of Pacini and Bain are peculiar in that the chest is expanded by making traction in an upward direction with the fingers in the axillæ, the only difference between them and the plan just described, being in the application of the force to the upper instead of the lower part of the arms.

De Chilly's method consists in thrusting the fingers beneath the false ribs, and alternately elevating and compressing them, in this way imparting to the general thoracic wall the movements of expansion and contraction. It offers no special advantage.

The prognosis in cases in which complete immersion has occurred for more than two minutes, and the entrance of water into the lungs and the exit of air therefrom have been unimpeded, is exceedingly unfavorable. We know of no authentic instances in which efforts at resuscitation had been successful in such a case. Those instances of recovery after long continuance in the water, of which we frequently hear, will be found on investigation to have taken place under circumstances which permitted an occasional inspiration, a momentary gasp for air which, however insufficient, permitted each time a little oxygenation to take place, and prevented the complete cessation of circulation and respiration.

THE HOMŒOPATHIC TREATMENT OF INSANITY.

At a meeting of the Governor and Council of Massachusetts, on the 19th of July, the subject of providing for the homœopathic treatment of the "State insane" was considered. There were present, also, representatives of the State Board of Health, Lunacy, and Charity. The meeting was held pursuant to a resolution of the Legislature of Massachusetts, which reads as follows: "That the Governor and Council be requested to consider the expediency of providing separate homœopathic treatment of insane persons under the care of the Commonwealth, who shall desire it," etc. The presentation of the homœopathic case was characteristically made by Drs. Talbott and Worcester. The former enlarged on the number of physicians practising on that dogma, and the number of persons who wish to be thus treated. The homœopathists of Massachusetts, he stated, feel so keenly the injustice of being compelled to submit to "allopathic" treatment that they send an insane relation to an asylum only when compelled to do so. But the argument drawn from the number of their adherents and the severity of their prejudice, only prepared the way for the conclusive evidence of the success of the homœopathists in the treatment of insanity. The success attained at Binghampton, had been such, said Dr. Talbot, as to lead to the belief that many are permanently benefited by the mild homœopathic treatment, who would, under other management, have entirely lost their reason. At the Middletown Institution for the "mildly insane," 45 per cent. were cured.

Dr. Worcester followed Dr. Talbot on the same side. He said that the homœopathists regarded insanity as a disease of the body, and their remedies were as useful in this as in any other disease. Dr. Talbot had just before stated that there was no homœopathic remedy for insanity, but for its symptoms, such as sleeplessness, they had remedies which were substituted for bromides, opium, and chloral. Dr. Worcester has lately published a book on insanity, made up of quotations from Bucknill and Tuke, Maudsley, Ray, and other well-known writers. He has merely added some extraordinary matter on the homœopathic treatment, but he does not discard entirely bromides, opium, and chloral. Indeed, he finds himself compelled to depend on them in serious cases. It is perfectly well known to all who have looked into the matter, that these remedies are freely used in these so-called homœopathic institutions. As they have to avail themselves of the literature of scientific neurological medicine, so they make use of, so far as the necessary secrecy will permit, of the medicinal resources of the same. Any results which they may procure from remedial management are thus derived from those sources which they contemptuously style "allopathic." The homœopathic remedies, intercalated, serve to give an appearance of consistency to their practice, and to furnish a basis for statistical statement of results.

Any one having the least acquaintance with statistical methods, will know how figures may be made to support any sort of case. Asylum statistics are especially open to suspicion, when the curative results given are much above the average. The homœopathists had better stick to the "glittering generalities" in which their evidence usually consists. This suggestion we offer because the fine display of figures made by Dr. Talbot awoke no enthusiasm, only suspicion, in the minds of some of the gentlemen present who were familiar with the capabilities of figures and statistics for double dealing. Prof. Edward Hitchcock, of Amherst, a member of the State Board of Health, doubted if they could do any better than the allopaths, but let them try it. Mr. F. B. Sanborn, also a member, seemed to doubt that they could improve on the present method, which does not err on the side of extreme medication, but he expressed a willingness to give their method a trial, the more especially as the increase of insanity demanded additional provision.

If, unfortunately, they are to have the opportunity to test the truth of their pretensions, let it be in the light of day. If they are to have a separate hospital in which to demonstrate the asserted value of their system, their practice must be legitimate, must be a logical outcome of their creed, and must not be aided by the use of other than homœopathic means. Let there be no attempts to secure good results by the application of the present scientific therapy of insanity, whilst a pretended homœopathic system is ostensibly and ostentatiously carried out.

ONE HUNDRED CASES OF NEPHRECTOMY.

IN our issue for March 11th, we considered somewhat fully the subject of nephrectomy, based on an analysis of seventy-six cases. In the *American Journal of the Medical Sciences* for July last, Dr. R. P. Harris, with his characteristic thoroughness and fulness, tabulates all the cases that he has discovered on record, one hundred in number, of which 50 were done in Germany, 24 in England, and 10 in the United States, besides one case under the care of an American surgeon in China.

These recent statistics show that the total mortality is rather more unfavorable than was supposed. Excluding those in which the result was doubtful, we reported 40 recoveries to 33 deaths—a mortality of 45 per cent. Dr. Harris adds 9 recoveries and 12 deaths, so that it stands 49 to 45—a mortality of 48 per cent.—with 6 yet undetermined. Even with this showing, the recoveries from so serious an operation are still over 50 per cent. The lumbar operation, however, has lost its preëminence as to the favorable percentage of recovery. The incision is recorded in 98 cases. Of these, 51 are lumbar and 47 are abdominal. The results are uncertain in 5 lumbar operations (with a probability of 4 recoveries and 1 death); and in 1 abdominal operation, with a probability of death. Not including the uncertain cases, the abdominal incision shows a mortality of 48 per cent., and the lumbar of 43.5 per cent., as against 60 and 36 per cent. of the earlier table. On the whole, it would seem that in cases of doubt the abdominal incision, preferably that of Langenbuch and Thornton, in the *linea semilunaris*, or the long oblique lumbar incision of Czerny, is the best.

THE DURATION OF THE POSSIBILITY OF CONTAGION.

INFORMATION is frequently sought as to how long the risk of contagion in a given case lasts, and the inquiry is commonly made of the doctor: When may a child, who is just recovering from one of the contagious diseases, mingle with the family, and go to school without risk of communicating the disease to his companions? The question has generally been considered to be one more easily asked than definitely answered, and the usual sources of information on such subjects are strangely silent on this. The French Government, through the Minister of Public Instruction, has done a good work in formally submitting the question to the Académie de Médecine, and in another column (page 179) we

publish the answer the Académie has just formulated. This reply is worthy of the widest publicity, and should be placed in the possession of the head of every school and family. If the measures of personal hygiene there defined are faithfully carried out, as they probably will be in France by governmental enactment, our schools and public conveyances will soon cease to be the principal nurseries in which contagious diseases are propagated, and their spread will be in great degree controlled, if the diseases themselves are not largely stamped out.

REVIEWS.

The Immediate Treatment of Fractures of the Leg by Plaster-of-Paris Splints. By John Croft, F.R.C.S. Reprint from the Med.-Chir. Trans., vol. lxiv. Pp. 12. London: 1881.

In a recent editorial The News advocated strongly the use of plaster-of-Paris as a material for the immediate treatment of fractures. No stronger support for the position then taken could be asked for than that afforded by the present paper. Two points only demand especial attention. Mr. Croft does not employ the plaster-of-Paris *bandage*, but *side splints*. Each splint consists of two layers of flannel cut half an inch narrower than the semi-circumference of the limb, the stocking serving as a pattern. Only the outside layer of each splint is thoroughly soaked in the plaster, and then the splints are applied, the dry layer next the limb, and the whole retained in place by a common roller bandage. Of course, traction is maintained till the plaster sets. The ease of partial or complete removal and reapplication, the absence of danger from swelling, the cheapness, and many other reasons, make this form of splint very desirable.

The second point is the result of six years' experience (from 1875 to 1880) at St. Thomas' Hospital, in the treatment of fractures of the leg. In 1875, of 97 simple fractures, 63 were treated by splints only, and 19 by plaster only; in 1877, of 130 cases, 13 by splints only, and 84 by plaster; in 1879 and 1880, 2 and 7 by splints, and 125 and 123 by plaster, out of 130 and 131 cases! Such figures not of one man, but of the entire surgical staff of a large metropolitan hospital, speak volumes for the method. Surely so simple, so cheap, so comfortable, and so effectual a splint, should grow in favor here as there.

Especially would it be found a ready resource in the country, where a full set of splints of all sizes are not often kept on hand, and where good instrument makers are of course inaccessible.

An Index of Surgery, being a Concise Classification of the Main Facts and Theories of Surgery, for the Use of Senior Students and Others. By C. B. Keetley, F.R.C.S., etc. 8vo. pp. 320. New York: William Wood & Co., 1882.

This is a book gotten up in England to help medical students in preparing for their final examinations. The author says it is only intended to serve as a refresher of the memory, and not to stand instead of text-books or lectures. With this object in view, it may be said to be a book likely to be useful. Indeed, it may perhaps help the busy practitioner who has a sudden call to a surgical case, and must run off without opportunity to consult a treatise.

But when this is said, all is said that can be commendatory. The book omits everything about the "*uterus*," while it includes "*rheumatism*." "Castration" is considered, but we cannot find the word "rectocele." Looking as one who refers in haste would, we fail to find anything in regard to fractures of the vertebræ, except that very seldom can any distinction be made between these and dislocations, to which caption reference is made. Then, we find no mention of the use of air- or water-beds.

The make-up of the book is poor. Cheap paper and cheap binding indicate that its publishers do not anticipate for it more than ephemeral reputation.

SOCIETY PROCEEDINGS.

WEST PHILADELPHIA MEDICAL SOCIETY.

Stated Meeting, July 3, 1882.

S. S. Stryker, M.D., President, in the Chair.

Treatment of Summer Complaints in Children.—Dr. Wm. D. Ronaldson, in opening the discussion, spoke of the frequency and causes of entero-colitis, dwelling especially on the influence of heat and improper food. He also called attention to the fact that the disease is situated chiefly in the large intestine. Entero-colitis is, he said, more properly to be considered "summer complaint" than is cholera infantum.

The treatment he described was that of the books: oil, rhubarb, opium, colomel, powdered crabs' eyes, acetate of lead, nitrate of silver, and the vegetable astringents. Warm applications, tonics, and stimulants were also mentioned. Dr. Rohrer, of Zurich, was quoted as advocating very strongly the use of coto and its preparations, and Dr. H. C. Wood as advising the application of cold as for heat-stroke.

Dr. T. A. Downs said one of the most important features of cholera infantum is the constant vomiting. For this he thought the use of calomel, in doses of one-sixth of a grain, combined with three-quarters of a grain of bismuth, given every hour or two, to be the best remedy. He had also noticed that the serous discharges, which are so free and so great, were controlled by small doses of the fluid extract of ergot. This remedy is supposed to influence the nerves which preside over the circulation, and acts through that system. With these two remedies, and a little laudanum or paregoric to control the bowels, and occasional wet packs to bring the skin into proper activity and perhaps cause some elimination, he generally manages to get good results. He thought stimulants play a very important part in the treatment of summer complaints.

Dr. R. M. McClellan said he thought the cause of cholera infantum could be set down in 19 cases out of 20 to improper feeding, and, most of all, to the nursing-bottle. This is a difficulty which is very hard to overcome. If any one is so unfortunate as to have to raise a child by the bottle, he learns that it is almost impossible to keep a bottle sweet and clean. Even if kept constantly immersed under soda solution, it will get sour. He thought the habit of using the nursing-bottle should be discouraged, and drinking from an open vessel substituted. It is surprising how young an infant can be taught to drink from a vessel with a straight edge, like a wine-glass, when it will absolutely turn away from a spoon. When the wine-glass has been used, it is not hard to get the child to use a larger vessel, like a tumbler or cup. In this way the times of feeding can be well regulated also. There is no habit worse for an infant than to pull away at a bottle by the hour—for the convenience of the mother or nurse.

In regard to medication, he got the best results from

a combination of subnitrate of bismuth with opium; such a combination as one grain of subnitrate of bismuth with an eighth of a grain of Dover's powder.

For food, he thinks Bermuda arrowroot very valuable. It must be carefully prepared, so as to be thoroughly cooked, and not raw. All the white particles must disappear and leave a clear bluish-white homogeneous mass, like clear-starch. This may be mixed with an equal quantity of cooked milk and flavored slightly with sugar and perhaps a little nutmeg. The good effect of using arrowroot came under his notice in the army, where it cured many cases of camp dysentery when other methods failed. In using it for cholera infantum, the child must be restricted to it, and not allowed to branch off into other articles of food, which might interfere with the good it would accomplish.

For extreme prostration and vomiting, he uses fine, scraped beef: scraping the beef with a dull tableknife, and giving, of the pulp thus expressed, morsels the size of a shelled pea.

The child must be kept in the open air as much as possible, and excursions upon the water made as frequently as may be. The child must not be unnecessarily disturbed. Every movement causes pain, and bouncing on the knee is a cruel practice. He thought the popular plan of excursions upon the water owes a good deal of its advantage to the easy motion of boats, as compared with vehicles on land.

Dr. Henry Mullen said he formerly used castor oil and laudanum; but of late he relied chiefly on stimulants, with bismuth and pepsin in small doses, and, if possible, getting the child into the open air and away from the city. He does not like sending children to the country, but knew no child that was sent to Atlantic City or Cape May, in reasonable time, that did not get well. For the vomiting he uses calomel. If this does not control it, he finds creasote of great advantage.

Dr. Charles W. Dulles then described the method of irrigating the large intestine, practised by Monti, of Vienna, and cited some cases to show its applicability to the treatment of cholera infantum. He laid stress upon making a distinction between an injection and an irrigation, and said he believed that by soothing and cooling and supplying water to the system, this method would prove of value not only in inflammations of the large intestine but also in those of the small one. He advised in the acute inflammatory stage the use of cool water; but in chronic and low inflammatory condition the use of warm water.

Dr. James H. Lloyd questioned the feasibility of irrigation, because, in his experience, the lower bowel so quickly discharged the fluid injected. With regard to arrowroot, he said he used it with a much larger quantity of a mixture of equal parts of milk and water. The arrowroot is meant to act mechanically and to prevent the formation of too hard a curd. He has seen the very best results from the use of the gelatine formula given by Meigs and Pepper—better than from any other diet.

Dr. R. M. Girvin said he had long held the view that in these diseases infants die more from the influence of the heat of summer than from any other cause. An adult can help to make himself cooler, but a child cannot do this. With this view he thinks a very important part of the treatment of cholera infantum must consist in the application of cold, just as is the case in sunstroke. He has an idea for the summer, of having relays of large rubber bags to contain cool water, which when applied to a child will reduce its temperature more comfortably than the cold pack.

One of the greatest difficulties we meet in these cases is the question of artificial foods. It is a very grave question, and one we cannot battle with, so long as we have to deal with men who supply them only for the purpose of making money—from the man who delivers sour milk at the door to the man who displays artificial foods and meats with fancy names in the drug stores. The trouble with the artificial foods is that they consist of starch and not gluten. The starch is rapidly converted into glucose and proves irritant.

When we turn to cow's milk we find that it sours and forms a hard curd, the casein coagulating in masses, too large and too hard for an infant to digest. This can only be corrected by adding something which will prevent such coagulation, and make it more like that of human milk, which coagulates in flakes and small particles. Very few children ever die of cholera infantum who have a full breast of human milk to nurse. No doubt it is right to make war upon the nursing-bottle; but he doubted if we shall ever be able to do away with it.

As regards the therapeutics of cholera infantum, he had found that his practice varied with different cases. He had had much benefit from the use of the oleaginous prepartions. The old combination of castor oil with laudanum and cinnamon, he had found very useful. He has not had the good results from the use of calomel which many others have, though when vomiting depends upon some irritant in the alimentary canal, to empty the bowels with calomel often serves very well.

His use of astringents, he said, was small, but he made frequent use of alkalies.

The beneficial influence of stimulants he did not think could well be over-estimated. Good brandy must be our sheet-anchor. Ten to thirty drops can be given every two hours.

He had never used irrigation, but Dr. Ellerslie Wallace, as is well known, thinks no treatment is so good as injections of sulphate of zinc.

Dr. J. B. H. Gittings said he had very satisfactory results from the use of calomel and Dover's powder. He starts with castor oil and a little laudanum, giving one or two doses, and follows them with minute doses of calomel and Dover's powder. He uses calomel $\frac{1}{12}$th grain, Dover's powder $\frac{1}{6}$th grain, and sugar 1 grain, every two hours till the stools are green. The stools soon become green and yellow, and then green, yellow, and brown; and, without discontinuing the medicine, the green will altogether disappear. He uses brandy also.

For sick stomach he thinks very highly of a plan of his father's. This consists in steeping a handful of green peach-tree leaves in a goblet of cold water, and giving, within half an hour and onward, a teaspoonful every two or three hours. He has also found this remedy very good in the vomiting of bilious fever in adults. He had experimented with hydrocyanic acid, but did not get the same results that the infusion of peach-leaves secured. He finds spice plasters valuable also.

Dr. John H. Musser had treated cholera infantum in Blockley Hospital with cold baths and ice bladders, and cold cloths, securing quiet, reducing the temperature, and checking the diarrhœa. The use of cold and stimulants he thought better than any other plan of treatment. The high temperature has a baleful influence on the nervous system, and the correction of this does great good to the patient. It is undecided whether the use of alcohol in the first stage does not do good by its antipyretic effect. Of course, in the stage of collapse it acts as a stimulant. There is often little evidence seen at an autopsy of inflammation of the bowels. In a case in which he made a careful examination with Dr. John Guitéras in Blockley Hospital, they found no lesions whatever in the entire gastro-intestinal tract, but rather an anæmia of the whole mucous membrane.

In entero-colitis he has gotten the best results from the use of castor oil and rhubarb, or rhubarb and magnesia,

given for twelve or twenty-four hours till the tormina and tenesmus are relieved, and followed up with astringents. He has seen creasote also do good, and quinia. Ringer recommends doses of $\frac{1}{100}$ of a grain of corrosive sublimate. This he had never found of use. One of the best astringents for simple diarrhœa is aromatic sulphuric acid. In regard to arrowroot, he cited a case to show the importance of getting it pure.

Dr. Michael Lampen has used calomel but little, and not with much satisfaction; bismuth he uses generally, and with success. He has often found barley-water of great service when nothing else would agree with the child.

Dr. R. M. Girvin again dwelt upon the important *rôle* played by heat in this disease. He believed the bowel trouble to be secondary and a result, but the application of water to it ought to be grateful to the child. At the beginning of cholera infantum he uses a combination consisting of castor oil two parts, aromatic syrup of rhubarb one part, and a few drops of laudanum.

He uses a modified spice plaster, consisting of paregoric one part, Jamaica ginger one part, and hot water two parts, in which a cloth is steeped and laid upon the child's abdomen. This can be diluted if too strong for the infant's skin.

As to the influence of malaria in this disorder, he believed it was over-rated. In regard to the use of aromatic sulphuric acid, he said we sometimes forget that babies may have the same cravings for acids as adults have. He often gives dilute sulphuric acid.

As an astringent, he finds acetate of lead and morphia very valuable. The formula must be carefully prepared by the druggist; so as not to overdose with morphia. A good prescription is:

℞. Plumbi acetatis, ... gr. v.
Morphiæ sulphatis, . . . gr. $\frac{1}{10}$.
Misce et div. in Chart. No. x. (or xij).

Barley, rice, and toast water are good to prevent the solid coagulation of casein, and are good to mix with condensed milk. A good way to make barley-water is to have the grains crushed in the house, boiled and strained through a thick cloth.

Dr. John H. Musser thought irrigation did good by cooling and supplying water to the thirsty system. He had seen good results from using minute doses of chloral to quiet the restlessness. He referred to the treatment by salicylate of calcium which Dr. Wm. C. Dixon had recently brought before the Society, as promising most excellent results.

Dr. S. S. Stryker said many of his ideas had already been expressed. He would add that it was his custom to give large draughts of water. It is sometimes objected to this that the child vomits it. But it will vomit, whether you do this or not, and some of the water is taken up too quickly to be vomited.

The combination of aromatic sulphuric acid with nux vomica and a little laudanum he found very valuable as a tonic toward the end of the treatment. For stimulation he prefers burnt brandy, made by putting some brandy in a saucer, adding a lump of sugar, and setting it on fire. He also uses the fine cordials—Maraschino and Curaçoa—which do good, and are very acceptable. He is also accustomed to use injections of flaxseed tea, to soothe the bowel and allow its irritation to subside.

Dr. W. D. Ronaldson, in closing the discussion, went over some of the ideas advanced by others. He said that his experience was that powdered crab's eyes act better than prepared chalk; he could not say why. *Apropos* of the use of infusion of peach leaves, as suggested by Dr. Gittings, he said that he had found that cold infusion of slices of apple would sometimes stop the vomiting in very severe cases of dyspepsia.

Some of the speakers had objected to speaking of cholera infantum and entero-colitis together. As a fact, in the summer complaints of children, there are ten or twelve cases of entero-colitis to one of cholera infantum; and, besides, no matter what might cause an attack of summer diarrhœa in an infant, if it became chronic, it always became an entero-colitis.

Résumé by the Reporter.—In this discussion all the speakers agreed that the food of an infant suffering with summer complaint should consist of good breast milk if possible, and, in the absence of this, of the purest cow's milk, diluted with starchy and gelatinous preparations. One speaker advocated teaching a baby to drink from a straight-edged vessel, so as to avoid the impurities of the bottle. Fresh air, seashore air, excursions by water, bodily rest, large draughts of water, large injections of flaxseed tea, irrigation of the colon, and external application of cold, by cloths and baths, were recommended.

The medicinal treatment approved of was such as would first remove any irritant from the bowels and then quiet them—castor oil and rhubarb, or rhubarb and magnesia, or calomel in small doses, with a very small quantity of opium (in Dover's powder), until the bowels were cleaned out. For the diarrhœa, if persistent, bismuth, pepsin, Dover's powder, laudanum, paregoric, morphia, acetate of lead, and aromatic sulphuric acid were recommended. The combination most used seemed to be about a grain of bismuth with about one-eighth of a grain of Dover's powder, or about a twelfth to a sixth of a grain of calomel with a sixth of a grain of Dover's powder. There was one recommendation of small doses of fluid extract of ergot.

For the vomiting, calomel, creasote, minute doses of chloral, large draughts of cool water, and the use of teaspoonful doses of a cold infusion of peach leaves were recommended.

Stimulants by the mouth and the application of spices to the skin of the abdomen were also approved, as well as the use of scraped beef and nux vomica, aromatic sulphuric acid, and laudanum during convalescence.

CORRESPONDENCE.

LETTER FROM BERLIN.

The Bacillus Tuberculosis—The Gelatine Culture Substance: Preparation and Use—Blood as its Soil, and the Use of the Color-tests in its Recognition.

Of all the materials tried to secure the so-called *rein cultur* (literally pure culture, *i. e.*, the isolation of parasitic forms), but three seem to be now in use in the mycological department of the Gesundheits-Amt: to-wit, the potato, the gelatine, and the blood-serum preparation.

Perhaps nothing would better indicate the patience and persistence, I might almost say obstinacy, with which Dr. Koch has worked, than the citation of the various substances used and rejected as unfit soils for the growth or sustentation of individual germs. Each form or family of parasite requires or develops best in a particular soil, and the discovery of the particular soil best suited for each form is the object chiefly aimed at; for when the proper culture substance has once been found, a constant supply of bacilli, bacteria, or micrococci productive of a special train of symptoms, or disease, is always at hand for demonstrative purposes or for experimentation in a new direction. Test tubes bristle about the room, as I have already said, each properly labelled as to its contents, and from these tubes pretty much every day matter is taken for inoculative purposes. For instance, yesterday it was found that the gelatine culture substance containing

the milzbrand (anthrax) bacilli had become impure, that is, that it contained also other bacilli and some micrococci foreign to milzbrand. The discovery was made by removing a minute particle and examining it under the microscope. It had become impure by frequent removal of the sterilized cotton plug for former experimentation. It was therefore necessary to have a pure supply. So far as could be seen by the naked eye, there was no impurity; but nothing can be seen by the naked eye, except an appearance of mould, vegetable mould, just as we see it upon moist bricks or cellar walls. The microscope, however, revealed the impurity at a glance. Now the mouse is singularly susceptible to the poison of milzbrand, that is, the mouse offers a singularly fertile soil for the growth of the milzbrand bacilli. It seems to have a sort of selective affinity for it, so that even if an impure material be inoculated, the animal invariably dies on the next day. All its organs, its blood especially, teem with milzbrand bacilli pure. So on this occasion, the test tube was held upside down in the left hand, the platinum wire (inserted into a glass rod for a handle) bent into an eye (like that of a needle), or as we would say a hook, held in the right-hand, is carried up into the "mould"-looking substance and a minute, barely visible portion is brought away. This portion or fragment is put upon a cover glass, previously sterilized by heat in an iron chamber over a Bunsen's jet, and is in turn covered by another cover glass likewise sterilized. The two cover glasses are now drawn across each other in order to get the thinnest possible layer of the "mould." It looks indeed now only a film, just as if blown upon by the breath. The cover-glass is now pressed upon an object glass, likewise just sterilized, and is then examined. The characteristic bacilli are displayed in myriads; on this occasion, *verunreinigt*, contaminated, as stated, with other micro-organisms. Thereupon, a fresh fragment is removed for inoculation purpose to get a fresh, pure supply. A glass jar covered with a wire grating is now brought into the room. The glass jar contains a white mouse in perfect health. The grating on top of the jar is substituted by a small piece of board, which does not quite cover the mouth of the jar. A long forceps is inserted by the side of the board into the jar and the mouse is caught by the tail and carried up to the top of the jar, so that the tail is completely out of it and the body of the mouse is wholly in it. With a pair of scissors a little hair is cut away from the dorsal surface of the root of the tail, with a knife a small incision is made, and a little pocket of skin dissected up into which the platinum point or eye is carried. It is the work of about two minutes, the whole procedure from beginning to end. On the next day, without a single exception as yet, the mouse dies. So to-day, the dead mouse is brought into the room stretched out by an assistant upon a board. The experimenter cuts through the skin by a long sweep from the throat to the pubes, and dissects it back on each side, because no hair, which carries so many *pilze* of all kinds, must touch the interior of the body. Now the abdomen is opened with a pair of scissors (knife and scissors just previously heated to redness and allowed to cool), and the thorax is cut away just as in a post-mortem examination. With a lance (also just heated) the right auricle is entered and the drop of blood upon its end is examined under the microscope as before. It is found swarming with milzbrand bacilli, pure. The platinum wire is now carried into the right auricle, and is then inserted in a test tube half filled with sterilized gelatine, inserted by punctures or penetrations which reach half-way down the tube. The sterilized cotton plug is re-introduced, and the tube is marked with its "etiquette" (label) and put away. By the next day, or in two days, the "mould" begins to grow, and at any time a fragment may be removed for fresh examination or experimentation.

Fresh gelatine culture fluid was made in quantity a few days ago, and I witnessed the process from beginning to end with a view, and with permission, to write it out. It is called "sterilized gelatine bouillon," and is made as follows:

Beef (lean), 500 grammes, is thoroughly minced with water, 505 grammes, and left standing over night in an ice-chest. On the next morning the mixture is filtered through muslin, the residue being subjected to pressure. The filtered fluid is now boiled until it becomes perfectly clear, the process requiring about one hour. It is now filtered through muslin again, and is then diluted with distilled water to 500 cubic centimetres. There is now added to it peptone-siccum, 10 grammes, and common salt 5 grammes. The mixture is now boiled again. This fluid constitutes the peptone-bouillon. We might call it number one.

Now pure gelatine, 30 (in summer 40) grammes, is left standing about one hour in pure water, 500 grammes, whereby the gelatine becomes perfectly soft. It is then warmed gently in a water-bath until the gelatine is entirely dissolved. This constitutes the gelatine fluid number two.

The two fluids are now mixed together and neutralized by a concentrated solution of sodium phosphate (whereby is a deposit). The neutralization is tested with both litmus and curcuma. The mixture is now filtered into a well-sterilized glass vessel, closed with cotton and boiled again, this time again in a water-bath. So soon as it cools the gelatine thickens. It has now the color of amber and the clarity of yellow stained glass.

The sterilized gelatine culture substance is not yet quite ready for use. It is withdrawn by sterilized pipettes into sterilized test-tubes, plugged with sterilized cotton. But though there is no question of the presence of developed bacteria, there may still be germs of bacteria which resist a high degree of heat. If such germs be present, however, they will soon reveal themselves as opacities in the clear amber jelly, and, if left alone, they would soon ruin the culture substance. So soon as they are seen, however, and even if they are not seen, the precaution is taken to kill them by gently boiling the gelatine (test-tubes with cotton plug in a water-bath) for a few minutes. This operation is repeated for several successive days, when the gelatine is finally absolutely sterilized, as is proven by the fact that it keeps, like the sterilized potato before described, for months or years (if the cotton plug be not removed) without revealing opacities denoting the presence of germs.

Of course, all these preparations are now made by competent assistants—servants, so that the experimenters find everything ready for work. Care must be taken not to boil the gelatine fluid too much or too many times, else it loses the property of gelatinization, when it would have no advantage over a fluid culture substance.

In the study of the germs of drinking water, of the soil, or of the air, the gelatine is gently warmed to a fluid or semi-fluid state, withdrawn by a pipette, and allowed to flow over a number of object glass slides previously sterilized in the hot air-chamber. It must not flow out to the edges of the slide. It soon sets upon the slide, and may then be inoculated with water or air germs, or, exposed to the air for an hour or so, be allowed to collect the air germs. The slides, four or five in number, are placed upon little glass banks or benches under sterilized glass globes (as in the potato observations before described) and individual opacities, as they grow, are removed from time to time and examined under the microscope for their exact nature.

Of course, contamination is likely to occur with each removal of the glass globe for examination purposes, but the contamination will remain fixed where it falls, of course, and cannot ruin the whole surface of the gelatine, or affect all the particular parasites peculiar to the water or soil. This is, of course, the preëminent advantage of the solid culture substance, and is the easy explanation of the wonderful results already secured.

But the tubercle parasite is not grown in the gelatine culture substance. Each parasite has its own soil, like the vegetable world of larger growth. The soil of the tubercle parasite is blood, and the discovery of the fact that for the tubercle bacillus, which will only show itself in colors, but was made to show itself in this way, clear and distinct and beyond a shadow of doubt, the discovery of the fact that for this bacillus its own soil could be made so clear that any one can see it grow in it, is, I take it, the greatest revelation of modern times.

In the study of the etiology of tuberculosis, Koch soon found that neither the potato nor the gelatine-bouillon were suitable soils for the cultivation of its principle. His researches with anthrax had long since made him familiar with the best soil for its bacilli, and with the fact that some animals are peculiarly susceptible to it, while others enjoy more or less immunity against it. Mice, as we have seen, are so singularly susceptible to it that the body of the mouse is used as kind of filter or sieve to separate it from other micro-organisms. On the other hand, rats are not attacked by it at all. Neither do earth worms suffer from it, nor do they even act as carriers of it. It is well remembered the sensation which Pasteur lately excited by declaring that earth worms carry this poison from the depths of the earth in which animals dead of it are buried, to the surface to infect living animals. The story was regarded as one of the proofs that fact is stranger than fiction. Koch conclusively demonstrated the falsity of this conception with a chain of experiments that may serve as models for like investigations. He buried animals dead of it in the earth, and filled the earth with worms. These worms he extracted from time to time, cut them up in small pieces and examined them for bacilli, which he never found. Next he injected the contents of the earth worms into mice without effect, making always a control experiment of injecting some of the earth into other mice, which were always killed by the germs which it contained. Next he proved that the bacilli cannot live at the low temperature of the deeper regions at which animals are buried, and lastly, he showed that this earth-worm explanation was entirely superfluous, anyhow, for the bacilli themselves are voided with the bloody urine that escapes before death, and with the bloody discharges from the nose, etc. Voided with it, they are able to live and develop for a time upon the nutrition afforded by the earth itself, and may be liable to be washed off by floods to great distances, where they overspread meadows and thus reproduce the disease. In the work in which this refutation is published Koch claims that Pasteur has proved nothing new of this disease, that he has not acknowledged the work of his predecessors, and that his conclusions only tend to confuse and perplex the facts that are already thoroughly known. He entertains a high opinion of the geniality and ingenuity of the French observer, but believes that his conclusions will be entirely forgotten in a decade of years.

But this is aside from the subject of tuberculosis, which is the text of this letter. It would seem to be a very natural thought to select blood as the test medium for the cultivation of its "virus," as it used to be called, but the problem was not how to solidify it, for that occurred naturally enough in the process of coagulation, but how to get it clear. How long and how persistently this task was worked at it would be hard to say, but the end was finally reached, and now it seems easy enough, For the proof of the existence of a bacillus peculiar to tuberculosis could not be considered complete without the ability to propagate the disease with it. Now, Koch had satisfied himself that he had discovered the bacillus with his color-tests. He saw this particular form recur again and again, with such frequent repetition, a form so totally different from the other familiar forms as to soon convince him of its import. But to put the proof beyond dispute it was necessary to be able to cultivate it by itself, apart from every other form of micro-organism, and to effect this object it was necessary to have a suitable solid culture substance. This soil or substance was finally found, as stated, in blood. Vials, or test-tubes, of it now stand about with the bacillus tuberculosis growing in it, some of them nearly a year old, some prepared but a few days ago, so that at any time, and every day the experiment is made, new inoculations can be done, and the blood is prepared as follows:

A glass vessel, beaker, or jar, is sterilized by steam, and into it is received, directly from the body of the sheep, a quantity of blood. The vessel is now simply covered and in no way touched, above all things, is not moved, that the process of coagulation may quietly proceed. Agitation of the vessel would prevent or retard coagulation; touching it might contaminate it. Thus, then, it stands absolutely still for from twelve to twenty-four hours. A glass pipette with a bulb in its centre is now sterilized by being heated to redness, and through it the supernatant serum is withdrawn, and emptied into sterilized test-tubes, closed with a sterilized cotton plug. The test tubes have been previously sterilized in an air-bath of 150° to 180° C. The test-tubes having now been filled, strictly speaking, about one-third full, with the serum, are put into a water-bath at 58° C., where they remain for an hour. This process is repeated once a day for six days, the sterilized cotton plug being never removed.

This is the process of sterilization and now comes the process of gelatinization. To effect this purpose, the test tubes are put into a water bath again. This time they are all inclined somewhat, so as to lie sideways, about at an angle of 45°. Of course, the exact angle of inclination is immaterial, but I should like to convey the correct impression. They are inclined sideways so that when the blood serum "sets," it will lie partly along the side of the tube, where a greater surface is offered for inspection. In this position in the water bath they are subjected to a heat of 65° C. This degree is very material, for long experience has taught the exact amount of heat that may be employed to secure the desired result. For instance, if the temperature ran up to 75° C., the serum becomes opaque; at 65° C., not sustained too long, the serum coagulates to a solid or semi-solid mass having the color of amber, and about the clarity of some of its varieties. It is never so transparent as the gelatine-bouillon preparation, but is more than translucent, as denser opacities may easily be detected in it. The exact length of time occupied in the process of gelatinization cannot be given. It is necessary to lift the test tubes out from time to time, to see when coagulation or gelatinization has occurred.

The blood-serum soil is now ready for use. A test tube may be directly inoculated, by the process already described for sputum, or from the formerly so-called "virus" taken from a tuberculous lung, or better, perhaps, from the tuberculous products of an animal killed in the height of the disease. At first, nothing is seen in the test tubes, but in about forty-eight hours, a little

scaly appearance presents upon the surface, different from the "bloom" of milzbrand or septicæmia, and this scaly product grows very slowly, until the whole surface or a larger part of the upper layers of the serum is filled with the tuberculous "matter." This matter when now removed by the platinum wire and examined under the microscope is seen to consist of, as the Germans say, "*lauter*" bacilli.

I have gone minutely, or perhaps tediously, into the description of these processes, but I am justified in it, I think, by the failures which occur with the beginner in this field of work for want of a few details. Here, I repeat it, all these preliminaries are prepared by competent assistants, and the experimenters find the tubes all properly filled and labelled, standing in racks and ready for use.

As I have already, in previous letters, given a full description of the methods of inoculation, hypodermic injection, etc., I will now proceed to the color tests, by the use of which any one may detect the bacilli for himself in any of the products of the disease. These tests have, of course, all been mentioned by their author, else I should not mention them at all, but not with that fulness, perhaps, which the new worker requires. The old skilled microscopists and pathologists, who are familiar with the methods of using color tests, and who are already, for aught I know, working up the subject in full practical use, will excuse the prolixity with which details must be mentioned to be of any service to the neophyte. And here, I may say, I am speaking from failures in personal experience with the bacilli of tuberculosis. Methods will doubtless soon be simplified to such extent that any one may detect bacilli in a few minutes, but that is not the case as yet. It takes a good hour now to give an opinion that is positive. But this opinion can be positive, I am prepared to declare.

We will suppose that a specimen of sputa is brought in, as it is here every day, for examination. Nothing else is known about the case, nor is anything else cared about it, any more than any history is cared about when a piece of ham is brought in to be examined for trichinæ. The specimens come in here in glass vessels, in one of which we will let our specimen stand.

This is no place or time to go into a history of the color tests. Microscopists have known the value of these tests in histology and pathology long ago. In this particular field, mycology, we may as well call it, it has also long been known that different bacteria could be colored in different ways; some tests in one way, some in another; indeed, it was proposed long ago to distinguish different forms by their affinity for certain colors. Koch makes a better distinction in adding to the color reactions, the kind of soil in which they will grow. With what a variety of colors Koch has worked, his colaborers in this field of etiology fully know. For our purpose here it will be enough to state that the principal colors now in use are methyl violet, methylene blue, fuchsine (red), gentian, Bismarck brown, and vesuvin (brown). All these colors can be readily obtained of any good chemist here, and doubtless many of them have been used by the microscopists at home.

Milzbrand bacilli are best studied, or best seen, with the blue color of the methylene blue, and it was probably from his extensive studies in this field that Koch was led to use this color most in his work upon tuberculosis. I say probable from lack of any definite knowledge, as one does not like to seem too curious in inquiring into causes or incentives. But no one, not even Koch, would have even discovered the bacillus of tuberculosis by the use of any one color. And this is the evidence of the persistence and patience (qualities whose use when crowned with results, the world calls genius) of this particular student. He made experiment upon experiment, at last, among others, with a brown color superimposed upon the blue, when there began to recur with the use of these colors, a form of parasite never seen before, and requiring additional study. So about, as nearly as I can gather from conversations which go on about me, was this bacillus of tuberculosis worked out, and then implanted and fixed, I might say, in its own nutrient soil.

Koch worked out the parasite peculiar to tubercle, first with methylene blue and vesuvin, successively, but by no means immediately successively, or without intervening steps employed.

The following is, then, the aniline coloring solution first employed:

1. Distilled water (sterilized by long boiling), 200 grammes.

2. Concentrated alcoholic aniline coloring matter (methyl violet, methylene blue, fuchsine, chrysaniline yellow, or aniline green—no matter which, the blue mostly), 2 grammes.

Mix and make alkaline by adding one-tenth cubic centimetre of a ten per cent. potash solution.

This constitutes the alkaline aniline coloring solution, which was employed as the first color up to a few months ago.

The only objection to it was the fact that the preparation must remain in it for a long time, twenty to twenty-four hours, before it is thoroughly impregnated with the color. True, the time could be shortened to one hour, or even half an hour, by heating it in a water-bath at 40° C., but this added another step to the examination, already somewhat complicated. So that for quick work, the modification lately introduced by Ehrlich, has been substituted, and is now mostly in use.

Ehrlich suggested, and was the first to employ, so Dr. Koch says, the use of an aqueous solution of aniline oil, to which the coloring matter is directly added. The aqueous solution of aniline oil has the advantage of being already alkaline, so that two steps of the process, namely the subjection to heat, and the alkalinization may now be dispensed with.

He will assume that the first color has now been prepared and is standing in a bottle ready for use.

Four or five watch-glasses are now half filled with the coloring matter, and left standing upon the table.

Now from the glass containing the sputum, a minute fragment (from anywhere, though the whitish caseous-looking masses in phthisical sputum are "*lauter*" bacilli) is removed with the ever useful platinum hook or wire previously "*ausgeglüht*" (which is the work of a second or two in a Bunsen's jet, which is always burning on the table), and is not put, but spread in a thin, almost invisible, film over the whole surface of a *cover* glass. And now, and here, comes in a delicate point. The sputum must be fixed upon the glass. If not, the alcohol in the color tests will throw down a precipitate, which precipitate many and many a "bacteria fanatic" has taken for a special form. The specimen or "*preparat*" is very simply fixed by heat. To get this point exactly was a nice and delicate thing. If not heated enough, the precipitate forms; if too much, the specimen is burned up, destroyed. "Pass it three times through the flame, thus," is the word. Some of the workers hold it between the forefinger and thumb, others by the edge or cover with a forceps, and pass it slowly through; about as one would pass the finger through the flame of a candle, not to let it burn; and thus the specimen is fixed. In skilful hands this fixation requires about ten seconds.

Now, then, the object glasses, object side down, are dropped upon the surface of the coloring matter in the watch glasses where they must float and not sink, else the color will not reach the specimen lying in the bot-

tom of, and in close apposition with, the glass. *Here the specimens must lie for half an hour.*

While they lie taking up the color, violet we will say, because that is the best for quick work, we may proceed to prepare the second color. Both colors—I might say all colors—are already prepared here by the assistants, but our laboratory is not yet thus provided.

The second color is vesuvin, which is brown, and it is very easily made. It is simply a concentrated *aqueous* solution, and it stands upon the table, not with a cork, but with a small glass funnel in its mouth, lined with filtering paper. For the vesuvin must be filtered always immediately before using. This looks like another complication, but is not in reality, as a little of the fluid in the bottle is simply poured into the funnel, and, as it drops, it is let fall upon the "*preparat.*"

But not yet. The half hour in the violet coloring matter solution has now elapsed, we will say; the object glass is picked up by the cover with a pair of forceps, *and is decolorized!* The truth is, it is not all quite decolorized, for the tubercle bacilli will not quite let go of all the coloring matter. The object is to decolorize everything else, any other bacteria, for instance; with manifold forms of which all sputum teems, all cell formation, in fact, everything else.

The decolorization is very quickly done. On the table there stands a small glass vessel two-thirds filled with a solution of concentrated nitric acid (Ph. G.) one volume, and distilled water ten volumes.

The cover glass (*preparat*), held by the forceps, is now dipped into this decolorizing solution, and gently moved about two or three times (in five seconds perhaps) until, as is seen by the naked eye, all or nearly all the color is gone

Next, the nitric acid is washed off by being held for a moment under a small stream flowing from the hydrant.

Now, then, the funnel is lifted from the vesuvin bottle, and two or three drops of the thick deep brown fluid is let fall upon the specimen, which is tipped about from side to side that the color may pass over the whole surface of the glass. This takes about five seconds more. Superfluous vesuvin is shaken off, the cover glass is put and pressed down upon a clean object glass, and is examined for bacilli. If any are there, if only one is there, it stands out perfectly sharp and distinct, a violet rod in a brown field, unmistakable in its form, *in its color*, from anything else. Perhaps not even one may be found in this specimen. Then other specimens, prepared at the same time lying in the first color, are successively picked up and examined. If any are found in any of the specimens, the diagnosis of tuberculosis is absolute, just as it would be in the case of one trichina in trichinosis; but the absence of any would not necessarily exclude tuberculosis, just as would be the case in trichinosis.

The secret of the discovery lies in the fact that the original color imparted to the tubercle bacillus is not yielded up, while it is yielded up by every other bacillus, except that of lepra, which conducts itself just like this bacillus, though it is very different in its form. Any confusion of these diseases is not likely to occur with us, anyhow, so that this resemblance has no practical importance.

Mostly, the specimens teem with bacilli, which are recognizable at the first glance.

The specimen may be conserved in the usual way with Canada balsam, but it is important to know that *the color fades out in about two months.* It may be restored, of course, by beginning *de novo*, after careful recovery of the specimen from its bed of balsam with turpentine in the usual way.

Some one asked Dr. Koch, the other day, why he did not prepare and sell the specimens, and thus realize a small fortune. He would consider such a work unworthy the dignity of a science, he said, but even if he had not been restrained by any such feelings, he would have rendered himself liable to the charge of imposture, he added, with a smile, after the color of the specimen had faded out.

To my very great regret, but perhaps to the equally great pleasure of many of your readers, I am compelled to leave Berlin. I have still some notes that might be of interest; at any rate, I may have the opportunity of informing you of the reception of the bacillus tuberculosis elsewhere than in Berlin.

J. T. W.

Berlin, July 4, 1882.

POISONOUS EFFECTS OF SALIVA.

To the Editor of The Medical News.

Dear Sir: I would be greatly indebted to you if you would insert in your columns some exceptions, which I beg leave to take, to the statements made by Dr. George W. Sternberg, U.S.A., in your issue of July 8, 1882.

Owing to an accident, the current numbers of The Medical News did not reach me until lately, and I was entirely unaware that my remarks, made before the meeting of the West Philadelphia Medical Society and printed in The Medical News of May 27th, had been published in that or any other journal; nor was I aware of the letters of Drs. Sternberg and Claxton until my attention was called to them.

My surprise was great, to learn that I had, without forethought or reason, excited the indignation of such an esteemed friend and distinguished experimentalist as Dr. Sternberg, for my remarks, even though incorrectly quoted in the columns of the News, do not, I think, assail him or the character of the work done by him. Nevertheless, had what I said at the meeting been literally quoted, and had Dr. Sternberg stated his objections more accurately, this discussion, which is at once unpleasant and unnecessary, could have been avoided.

Dr. Sternberg says in the letter called forth by my remarks, *first*, that he did not experiment on dogs in the Pathological Laboratory of the University of Pennsylvania; *second*, that he did not conclude from his experiments that the poisonous effects were produced only by the saliva of persons who did not smoke; nor *third*, by the saliva of those who lived in hot climates, implying that, by these remarks, I had inaccurately represented the results of his experiments.

At this point allow me to make a correction and to state that:

1. I did not say that Dr. Sternberg experimented upon *dogs*, but that he used *rabbits*.

2. I did not dream of implying that Dr. Sternberg laid stress upon the influence of tobacco in modifying the poisonous effects of saliva. Whether or not the use of tobacco had any such effect was a question that arose in my own mind, and I mentioned it only collaterally that the experiments made by Dr. Sternberg, and later by Dr. Claxton, to determine this point were attended by negative results.

3. Dr. Sternberg's experiments appear really to show that the saliva of persons who lived in hot climates has more poisonous effects.

The rest is quoted in accordance with what I said, and is correct. It is evident, however, that Dr. Sternberg did not read carefully my statements, and misunderstood them. I fail to see where he has found it stated that Dr. Claxton obtained *results* differing much from his own (Dr. Sternberg's). I said that Dr. Claxton at that time came to different *conclusions*. I

did not question the correctness of the *results* of the experiments of Dr. Sternberg; these are certainly reliable; but I am perfectly at liberty to draw from them *conclusions* of my own, and even if these differ from those of Dr. Sternberg, it does not necessarily follow that I made "inaccurate statements" or "deductions."

Finally, I would like to explain that at the time when I made those brief remarks at the meeting of the West Philadelphia Medical Society, Dr. Claxton's experiments were not published. There may have been a misunderstanding; but from what I had seen of these experiments of my distinguished pupil, and from what he (Dr. Claxton) told me, I was justified in saying, "that any saliva, even that of animals, promptly killed those experimented upon." To this conclusion Dr. Sternberg will also come, if he will experiment with animal saliva, and will continue the experiments with human saliva. Dr. Claxton has limited himself, however, in his paper (*Philadelphia Medical Times*, June 17) to the record and the discussion of the experiments with normal human saliva, and hence it is perfectly proper for him to say there, that the results obtained accord, for the most part, with those of Dr. Sternberg.

Feeling now challenged, I must give the reasons why I am unable to agree with the *conclusions* my friend Dr. Sternberg draws from his saliva experiments.

Dr. Sternberg was the first to fully establish the virulence of normal human saliva. This is the main thing, and has great merit. But his experiments are not extended enough to prove his conclusion that the lethal effects are due to a poison peculiar to the saliva, and, moreover, by no means warrant his deduction, that only certain saliva has poisonous effects, and that some saliva lacks such properties, viz., does not kill rabbits.

I will relate some incidents from our experimental laboratory (University of Pennsylvania) in close connection with the last-named facts, and which suggest that "*any and all saliva*" *kills certain rabbits, while some rabbits cannot be poisoned by any saliva or by septic material of any kind.*

First, I beg leave to refer in detail to one, a rather unusual, instance of immunity in rabbits. There remained in the laboratory a number of living animals, left over after the various experimenters of my pathological class ceased work at the conclusion of last winter's term. Among the number was a buck-rabbit which had been largely dosed by my friend Claxton with saliva of some kind. Since then, during the last six months, this same rabbit was injected subcutaneously, at different times, with all the articles of the following bill of fare:

1. Human saliva,(second time).
2. Cancer juice.
3. Epidemic diphtheritic material from Michigan.
4. Bouillon, containing a rich crop of cultured micrococci from the same material.
5. Diphtheritic material from a fatal case in the city.
6. Slough from rabbit, dead of diphtheria.
7. Slough from scarlatinal sore throat.
8. Slough from erysipelas.
9. Slough from gangrene.
10. Cadaveric poison.
11. Feces from typhoid fever case.
12. Sputa from case of phthisis.

And in spite of all these inoculations, our rabbit is to-day perfectly well and happy. Suppose, now, we happen to have many such rabbits among those experimented upon! This is not the only instance. In our experiments of this year, for the National Board of Health, on diphtheria and septicæmia (unpublished report of Dr. H. C. Wood and myself), and occasionally in former years, we noticed that in every lot of rabbits used there were a certain number which showed an immunity from the poisonous effects of nearly every kind of septic material, although I must say that the trials were not made so thoroughly as in the case of our heroic rabbit. Each of the above-mentioned agents which had failed to kill him, had promptly killed many of his fellow-creatures, experimented upon at the same time.

Again, many rabbits died from trifling interferences, viz., from the subcutaneous introduction of simple foreign bodies, etc. (see Wood and Formad, Reports to National Board of Health, 1880–'81).

We had ample opportunity to learn that we should draw conclusions only from large series of experiments. Single or only a few experiments, especially if attended with negative results, teach nothing, and may lead to wrong conclusions.

There is a great deal to be said about this matter, and many comments are necessary, but are out of place here. I may be, however, further permitted to state, that we have never seen any animal die of blood-poisoning, entirely regardless of the kind of matter inoculated, unless there was created in that animal, by the matter used, a self-propagating, local, septic, inflammatory focus promoting the growth of bacteria. The character or kind of the matter used for inoculation appears to be immaterial, as long as it is capable of exciting a septic inflammation.

Yours, respectfully,

H. F. FORMAD.

UNIVERSITY OF PENNSYLVANIA, August 1, 1882.

NEWS ITEMS.

THE APPOINTMENT OF DR. CHARLES H. CRANE as Surgeon-General of the Army has just been confirmed by the Senate.

DR. MORELL MACKENZIE, of London, sails from Liverpool to-day, on a brief visit to this country.

A FRENCH TRIBUTE TO SURGEON GEORGE A. OTIS.—The *Union Medicale* for July 18, 1882, has a long obituary notice of the late Surgeon G. A. Otis, which commences with the following lines:

"The great surgical name, which was extinguished in Washington, on February 22, 1881, did not owe its reputation to the *éclat* of a teacher, operative skill, or an appreciative practice; but it was in the modest duties of a ministerial department that the author of the Surgical History of the War of the Rebellion was able to erect the most important monument extant of military surgery."

PROF. MAREY, of the Collége de France, has been decorated with the Officer's Cross of the Legion of Honor.

APPOINTMENT OF DR. A. W. SMYTH AS SUPERINTENDENT OF THE NEW ORLEANS MINT.—A telegram from New Orleans states that "the nomination of Dr. A. W. Smyth to be Superintendent of the New Orleans Mint by President Arthur has given great satisfaction to all save the bummer element in politics. The appointee was for about fifteen years Chief Surgeon of the City Hospital, and he is universally conceded to stand at the head of Southern surgeons. His practice has been very large, and he has acquired considerable wealth. His local status is of the highest, and his character without a stain. He has acquired enough in his profession to enable him to live comfortably, and has withdrawn therefrom in a great measure. A natural distaste for the scalpel and a love for political excitement led him into accepting this appointment.

Dr. Smyth will probably be the next Republican candidate for Governor of Louisiana, with a strong probability of an election. Such is the public estimation in which he is held that the Democratic papers unite in declaring his appointment to be the best the President has ever made in this State."

Dr. Smyth is well known in the profession as the only operator, up to the time of Mr. Thomson's case, whose patient had recovered after ligation of the innominate artery.

Health in Michigan.—Reports to the State Board of Health, for the week ending July 29, 1882, indicate that dysentery has increased, and that bronchitis, erysipelas, intermittent fever, scarlet fever, and neuralgia have decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending July 29, and since, at sixteen places; scarlet fever at nine places; measles at nine places; and small-pox at fifteen places, as follows: at Wayne Co. Pest House, July 23; at Westwood, Kalkaska Co., and at Manselona, Antrim Co., July 28; at Flint (twenty-six cases), at Lansing (one case convalescent), and at Detroit, July 29; at Deerfield, Lapeer Co., July 30; at Grand Rapids, and at Grand River, Kalkaska Co., July 31; at Crystal, Montcalm Co., at Mount Morris, Genesee Co., August 1; and in Ionia Co. as follows: in Orange township (fourteen cases), in Sebewa township (four cases), in Danby township (one or two cases), and in the village of Portland (two cases), August 3.

Burial Permits in Illinois.—At a regular meeting of the State Board of Health of Illinois, held April 13–15, 1882, the following resolution was adopted:

Resolved, That in order to protect the legal interests of survivors, to facilitate the detection of crime, and to secure fuller and more accurate knowledge of the causes of mortality, whereby preventive medicine and general sanitation may be promoted, the Illinois State Board of Health earnestly recommends to the proper authorities of all cities and towns in this State, having populations of one thousand or over, the enactment and enforcement of a suitable ordinance requiring a burial permit from a designated official, and based upon the physician's certificate of death *now required by the statute*, as a condition precedent to interment within, or removal of a decedent without, the corporate limits of any such city or town.

State Board of Health of West Virginia and the Requirements for the Practice of Medicine.—At a meeting of the State Board of Health of West Virginia, held in the city of Parkersburg, on Wednesday, July 26, 1882, there were present Geo. B. Moffett, M.D., President of the Board; Geo. H. Carpenter, M.D.; C. T. Richardson, M.D.; Gabriel McDonald, M.D.; Lawrence Carr, M.D.; Wm. M. Late, M.D., and James E. Reeves, M.D., Secretary, the Hon. A. R. Barbee, M.D., being the only absent member.

The business of general interest to the medical profession transacted at this meeting, was the adoption, by a unanimous vote, of the following preamble and resolutions defining the words "reputable medical college," as they occur in the law creating the Board:

1. *Whereas*, It is one of the special duties of the State Board of Health of West Virginia to protect the people against incompetent medical practitioners; and,

Whereas, The said Board is charged with authority of law to reject applicants for medical certificates who are graduates of *disreputable* medical colleges, unless they, the said applicants, shall appear before the said Board, and pass a satisfactory examination in all the branches of the profession; and,

Whereas, The test or proof of proper reputation of a medical college is the occupancy of all needful grounds and buildings set apart for lecture and laboratory work; the possession of such mechanical and scientific apparatus or appliances as are necessary to illustrate and supplement medical lectures; a *de facto* corps of capable professors, whose curriculum embraces not only both lectures and examinations in the eight ordinary branches of medical education — namely, anatomy, chemistry, physiology, hygiene, surgery, obstetrics, practice of medicine, materia medica, and therapeutics —but also the additional and important departments of hospital and clinical instruction; a preliminary examination as a condition of matriculation; the requirement of actual (not merely nominal) attendance upon at least eight-tenths of the lectures of *two* full winter-courses; dissection, practised during one full winter-course; and, finally, strict adherence to the measure of requirements for graduation established and published by its officers and faculty; therefore,

Resolved, That the State Board of Health of West Virginia will not hesitate to refuse recognition of all diplomas granted by disreputable medical colleges.

Resolved, That nothing less than the definition or measure of requirements expressed in the foregoing preamble, or a very close approximation thereto, will be accepted by this Board as proof of the "good reputation" of a medical college.

2. *Whereas*, This Board has before it a communication published in the Philadelphia Medical News, July 22, 1882, over the signature of "D. N. Kinsman, M.D., Dean of Columbus Medical College," which gives the standard of requirements upon which the diploma of that college is issued; and having other evidence of indisputable character that the said Columbus Medical College has grossly violated its published requirements for graduation[1]; therefore,

Resolved, That this Board can no longer recognize Columbus Medical College as worthy and "reputable" within the meaning of the law from which this Board has received authority to pronounce upon such cases; and all persons applying for registration on diploma issued by said Columbus Medical College will be rejected, unless they, the said applicants, submit to an examination by this Board, and are found duly qualified to practice medicine, surgery, and obstetrics in West Virginia.

Resolved, That this action is based wholly upon recent proceedings on the part of the Faculty of Columbus Medical College, and there is nothing in it which is intended to, or should in any manner, reflect upon the professional standing of graduates of that school prior to the year 1882.

A New Insane Asylum in Arkansas.—The new insane asylum at Little Rock, Arkansas, will be ready for the admission of patients in January next.

Porro's Operation.—On Wednesday, July 12th, Mr. Knowsley Thornton performed Porro's operation at the Samaritan Hospital. The patient was thirty-eight years of age, had been married twelve years, and in early married life had had a miscarriage; she had been separated from her husband until within the last six months, and shortly after he returned to her she became pregnant. So far as she could tell, she was about at the fourth month, and had not quickened. She had suffered from abdominal tumor for some six or seven years, but it had not troubled her till she became pregnant. It then began to grow very fast, and on admission into the hospital it filled the abdomen, pressing against the ribs above, and pushing the pregnant uterus down into the pelvis, so that a large portion

[1] See eighth Annual Announcement, page 13.

of the fœtus was below the level of the cervix, in the hollow of the sacrum. She was only moderately easy when in bed, and even then had considerable abdominal pain and occasional difficulty in breathing. She was in a weak and anæmic condition, and able to take but very little food. Mr. Thornton came to the conclusion that pregnancy could not go on; and being doubtful whether the tumor was a dermoid or solid ovarian, or a fibroid outgrowth from the uterus, determined to open the abdomen, perform ovariotomy if it was ovarian, and Porro's operation if it proved to be a sessile fibroid. It was found to have a sessile base, and an elastic ligature was first passed round the neck of the uterus and the pedicles of both ovaries temporarily, and the uterus (with fœtus, both ovaries, and the tumor) cut away. No blood was lost, except what was in the tumor, etc. A large mass of adherent omentum was ligatured off, and a Kœberlé's wire serre-nœud was then applied on the distal side of the elastic ligature, and the latter was removed. The stump was fixed in the lower angle of the wound, and treated with solid perchloride of iron. The operation was strictly Listerian in every detail. There was little, if any, shock, and the patient is now convalescent. The temperature has only once been up to 100.2°; the pulse on the second night to 108. The wound has been dressed twice under the spray, and was found dry and sweet. The patient sleeps and eats well, and has (one week from operation) a temperature of 98.4° and pulse 84. The bowels have acted well after enema.—*Med. Times and Gazette*, July 22, 1882.

ŒSOPHAGOSTOMY.—During the last session of the Clinical Society, Mr. Reeves read a paper on the treatment of œsophageal stricture, in which he advocated the operation of making a permanent opening in the œsophagus, in preference to gastrostomy, which has proved so fatal. It may be recollected that, in the second case of gastrostomy, then related by the author of the paper, healthy tube was reached *post mortem*, without great difficulty; and the impression of this case, coupled with the fact, that œsophageal stricture is commoner in the upper part of the tube, induced Mr. Reeves to recommend a cervical exploration before proceeding to gastrostomy. Recently, an opportunity has occurred to carry this plan into effect. A man, aged 63, under the care of Dr. Stephen Mackenzie, at the London Hospital, was referred for operation to Mr. Reeves, who, after consultation with his colleagues, and with the approval of Mr. Adams and Dr. Mackenzie, successfully performed the operation. On reaching the œsophagus, which was recognized with difficulty on account of its walls being cancerous, a large elastic catheter was introduced, and tied in. A further account of the case will appear in due course. Meantime, the operation is of interest, as showing that the suggestions offered by the author of the paper, at the Clinical Society, have been proved to be quite practicable, and tend to bring this rather rare and difficult operation within the range of practical surgery, and possibly to offer advantages over gastrostomy.—*Brit. Med. Journ.*, July 15, 1882.

EMBALMING.—The principal Italian embalmers keep their special processes a secret, although the chief steps are well known. The process of embalming is stated to consist of five steps: First, cold water is injected through the whole circulatory system until it issues quite clear; this may take as long as five hours. Alcohol is then injected for the purpose of abstracting all the water from the body; this is followed up by the injection of ether to dissolve out the fatty matter; this injection is carried on for several hours—in thin subjects for two, in very fat ones for even so long as ten hours. After this a strong solution of tannin is slowly injected, and full time is allowed for its soaking into all the tissues; this takes from two to five hours. Lastly, the body is exposed for from two to five hours to a current of warm air, which is previously dried by passing it over heated chloride of calcium. The body can then be preserved for any length of time without undergoing change, and is as hard as stone.—*Lancet*, June 24, 1882.

PRECAUTIONS AGAINST FIRE IN THEATRES.—The horror of the Vienna theatre fire and the revelations of the trial recently concluded have borne fruit in a plan for establishing official control over all the theatres of the empire, so far as public security is concerned. The Minister of the Interior has sent out to all the provincial governors the framework of a bill to be submitted to the several Diets, of which the following are the main provisions: In every town where there is a theatre, a local commission is to be appointed, composed of representatives of the municipal authorities, the police, the medical profession, the fire brigade, and impartial experts. These are to exercise a general supervision. Further, a similar local commission, but comprising members of the Diet, is to be attached to the Stadtholder's office in each province. All new theatres are to be detached from other buildings, and are to contain no store or printing-rooms. Every inflammable substance used in the performance is to be impregnated with fire-resisting fluids; and the most minute precautions are to be taken for insuring proper inspection. It will also be provided that there shall be an open gangway between every six rows of seat, that a shaft for the escape of smoke shall be erected, and that the number of the audience shall be strictly limited to the capacity of the theatre.

OBITUARY RECORD.—At Cincinnati, on August 1st, of apoplexy, WILLIAM HEBERDEN MUSSEY, M.D., aged 64 years. Dr. Mussey was born at Hanover, N. H., September 30, 1818, and graduated from the Ohio Medical College in 1848. He was prominent during the Rebellion for his services in the Union cause, and was one of the most efficient medical officers in the service. At the close of the war he was appointed Professor of Surgery in Miami Medical College, which position he held at the time of his death. During his lifetime Dr. Mussey gave to the Cincinnati Public Library five thousand volumes and twenty-five hundred pamphlets as a nucleus of the "Mussey Medical and Scientific Library," designed as a memorial of his distinguished father the late Dr. Reuben D. Mussey.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 1, 1882, TO AUGUST 7, 1882.

MUNN, C. E., *Captain and Assistant Surgeon.*—Granted leave of absence for one month, with permission to apply for two months extension, when relieved by Assistant Surgeon T. H. Pleasants.—*S. O. 147, Department of the Missouri, July 28, 1882.*

SHUFELDT, R. W., *Captain and Assistant Surgeon.*—The leave of absence granted him in S. O. 92, April 21, 1882, from A. G. O., is extended one month.—*S. O. 178, A. G. O., August 2, 1882.*

HOPKINS, W. E., *First Lieutenant and Assistant Surgeon.*—To proceed from Fort Adams, Rhode Island, to Camp Washington, Gaithesburg, Maryland, and report to the commanding officer for duty.—*S. O. 132, Department of the East, July 31, 1882.*

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

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ORIGINAL LECTURES.

ON BRONCHITIS IN CHILDREN.

A Clinical Lecture.

BY WILLIAM T. PLANT, M.D.,

PROFESSOR OF CHILDREN'S DISEASES IN SYRACUSE UNIVERSITY, SYRACUSE, NEW YORK.

GENTLEMEN: The subject that claims your attention this morning is bronchitis. Though not essentially different from the same disease in the adult, its extreme frequency in early life entitles it to special consideration.

By bronchitis, we understand an inflammation of the lining of some and possibly all of the bronchial tubes. It is a malady characterized by great differences as to severity and danger. It may be so mild as scarcely to merit notice, or so severe as to defy treatment and lead to speedy death.

Its most frequent cause is exposure to cold with dampness. It is, therefore, like other acute affections of the respiratory organs, much more likely to occur in the fall, and winter, and early spring than in midsummer.

You will not wonder that it sometimes occurs epidemically, when you reflect that a state of the atmosphere that would favor its advent in one person, might, with equal reason, render multitudes of others liable to it. Influenza is the name given to epidemic bronchitis. In our climate, it is, I think, most common in March and April. In some seasons it is exceedingly severe, affecting indiscriminately all classes and ages.

Often, too, bronchitis is secondary to other diseases. In fact it is a pretty constant attendant on measles and whooping-cough, and pneumonia, and pulmonary phthisis. In croup, diphtheria, scarlet fever, and the continued fevers it frequently appears as a troublesome and dangerous complication. Dentition also seems to favor attacks of bronchial catarrh, and you will have frequent occasion to notice the concurrence of the two conditions.

The symptoms vary, as you would suppose, with the extent and intensity of the inflammation. In its simplest form we know it as a "cold on the chest," and it is apt to be preceded and attended by the usual phenomena of a coryza. There is sneezing and nasal discharge; the eyes are suffused; the head feels stuffed; very likely the throat becomes sore, and soon the child begins to cough. If old enough, it may complain of tightness and soreness over the chest. In young infants there is often an outcry with every cough. As the thorax becomes affected, relief is apt to come to the head and throat, as if the cold had moved downward.

The cough, at first, is harsh and dry, because the usual moisture of the bronchial tubes is diminished or suppressed. If, at this early stage you lay your ear to the chest, you will hear, besides the respiratory murmur some sonorous and sibilant râles. After two or three days the secreting function of the bronchial mucous membrane is restored and the cough becomes loose and rattling. Indeed, it is more than restored, for the secretion is changed in quality and largely increased in amount. Thin and colorless at first, it soon becomes semi-transparent and thicker, and a little later is yellowish and opaque. It now consists of mucus and pus and an abundant crop of epithelium. Children are so slow in learning to expectorate that when under four or five years of age the sputa are generally raised to the throat and swallowed.

Auscultation at this time of free discharge discovers coarse, moist râles with both respiratory movements. The sense of constriction across the chest has been relieved by the exudation, and the cough ceases to be painful. There has probably been at first a little fever, with lassitude, and some lessening of appetite. These symptoms may last for three or four or even ten days, when the cough and discharge begin to diminish, and there is a speedy return to health. This is a true bronchial catarrh, and, in strict speech, should not, perhaps, be called a bronchitis, for it is doubtful if the mucous membrane is more than hyperæmic.

Not all cases are thus benign. The bronchial tree has numerous branches of many sizes, and the above description applies to a condition in which only the larger ones are involved. If the inflammation dips down into those of smaller calibre, the disease becomes more severe and dangerous; or, if it extends still further, and invades the ultimate twigs—capillary bronchitis—the situation becomes, to the last degree, painful and desperate. Occurring secondarily to other diseases, or in weakly children, bronchitis is apt to be severe, and in young infants even the simplest bronchial catarrh is liable to dangerous and fatal extension.

In the severer forms, the symptoms are pronounced and unmistakable. The cough is frequent and painful. There is dyspnœa, more or less distressing according to the extent of the inflammation and the age of the child. The nursling suffers most, because it must so often relinquish its hold of the nipple to recover its breath. The call for air may be so urgent that all the muscles auxiliary to respiration are actively at work. The inspirations may mount to sixty, eighty, or even one hundred a minute.

The fever, though considerable, is of varying intensity, and you will often notice, as in many other febrile states, a morning remission and an afternoon or evening increase. The relation in frequency of the pulse to the respiration is apt to be changed. Normally there are three or four pulse-beats to one breath. In capillary bronchitis the ratio may be two to one, or even less. So great a change is indicative of extreme peril.

There is great restlessness, as is always the case when the want of air is urgently felt. Secretion, when established, is usually abundant, and auscultation reveals numerous moist râles, both large and subcrepitant. They may also be detected by palpation almost as readily as by the ear. They are especially numerous below and posteriorly, for to these parts of the chest the fluid tends by gravitation. The percussion note is resonant, unless obstruction of bronchial tubes has occasioned pulmonary collapse, or a considerable portion of lung substance has been invaded by the inflammation. Probably in the young child instances of serious bronchitis are rare in which the inflammation is strictly confined to the tubes. Often small circumscribed portions of pulmonary tissue are found to have been inflamed, but the condition is not easy of detection during life.

If the disease continues and extends, other symptoms declare themselves. An inflammation involving the smallest tubes of both lungs cannot long exist without causing marked disturbance of the circulation. Though

the inspirations are ever so frequent, too little air passes through the diminished calibre of the bronchioles to supply the increasing want. The pulmonary vessels refuse free circuit to unoxygenated blood, and the right heart and all the venous system become surcharged. The lips and extremities grow livid, the face takes on a bluish pallor, the temperature falls, and a cold sweat stands on the head, and perhaps covers the general surface. Soon there are marked signs of carbonic acid poisoning. The cough, hitherto so troublesome, abates; the restlessness gives place to quiet indifference; the respirations grow more frequent and shallow; the pulse becomes reduced to a flutter, and then disappears; coma usually and convulsions occasionally precede death.

Such is the course and frequent termination of capillary bronchitis. It is not always fatal. You will meet with cases—not very often, it is true—where the outlook for a time is dismal enough, that do at length recover. A lessening of the dyspnœa is one of the earliest signs of amendment. The disease seldom lasts as an acute affection longer than two weeks. In young infants it has been known to be fatal within forty-eight hours. The return to health after a severe attack is apt to be interrupted by frequent backslidings, especially in cold and changeable weather. It may even degenerate into a chronic bronchial catarrh. Children who have a trend toward phthisis, or are otherwise in delicate health, are liable to this form.

A word or two as to the post-mortem appearances in case of death. There will be redness and swelling, and probably softening of the bronchial mucous membrane. It may look and feel like scarlet-red velvet, owing to intense hyperæmia. These appearances will, of course, be coextensive with the antecedent inflammation. The smaller tubes may be found filled with the muco-purulent exudation that before death gave rise to such distressing dyspnœa and abundant moist râles. If you make pressure upon a cut section, you may observe a drop of this fluid starting from every tube. Very likely you may meet, along the free borders of the lungs, patches of collapsed tissue, for bronchitis is one of the most frequent causes of acquired atelectasis. Frequently, and especially in the lower lobes, you will come across isolated patches of lobular pneumonia, too small to have been detected during life.

Treatment.—A simple bronchial catarrh or "cold on the lungs" calls for little treatment. It is rather for what it may become than for what it now is that it is worth a careful looking after.

Probably an emetic given as soon as the child begins to cough would bring many cases to an abrupt end. We are not often consulted early enough for that. While the cough is yet tight and painful, I try to hasten the coming of the stage of secretion by giving an expectorant as follows:

℞.—Pulv. Ipecacuanhæ, . . . grs. vij
Pulv. Ext. Glycyrrhizæ, . . grs. iij
Sacchari Albi, ... ℥iss
Aquæ, ... ℥iij—M.
Signa.—A teaspoonful every second or third hour; if it nauseates, give less.

When the patient is robust, and more than three or four years of age, I often add to the above .06 grm. or one grain of tartar emetic. Another good plan for children of this age and habit is to give from three to six drops each of wine of ipecac and wine of antimony, with a teaspoonful of sugared water. If restless and feverish, I order a hot foot-bath at bed-time, and give—

℞.—Pulv. Doveri, ... gr. ½–j
Pulv. Ipecacuanhæ, . . . gr. ½
Sacchari Albi, ... grs. xv—M.

I think it well to get the derivative effect of a laxative, as castor oil; or—

℞.—Pulv. Rhei,
Hyd. cum Magnesiæ, . . . āā grs. ij.
Signa.—Ft. chart.
Repeat after a few hours if necessary.

The patient should be kept in-doors at least until the cough is loose and painless. In most instances, from two to five or six days of such care will be all that is necessary.

But if the attack is more severe, as shown by dyspnœa and high fever, there is occasion for more watchful care and more vigorous treatment. The air of the apartments should be evenly moist and warm. As an expectorant, the first formula above given will answer, or something like the following will serve you well:

℞.—Syr. Ipecacuanhæ, . . . ℥vj
Syr. Scillæ, ... ℥iij
Vini Antimonii, ... ℥ij
Syrupi Simp., ... ℥iss
Aqua Menth. Pip., . . . ad. ℥iv—M.
Signa.—A teaspoonful once in three or four hours.

If the child is delicate, or under two years of age you had best omit the antimonial wine.

Applications to the chest make an important part of the treatment. Nothing suits me so well as a poultice made of ground mustard and flaxseed in the proportion of one part of the former to from eight to fifteen parts of the latter; stir this into a paste with warm water; spread evenly and not too thickly on muslin; cover this with a thinner cloth and stitch around the edges. This may be long enough to go around the chest, and wide enough to reach from clavicle to umbilicus. Surround this with a layer of oiled silk or other impervious fabric. This poultice should be worn for hours; if too irritating for this, the mustard should be reduced to the point of tolerance. With some thin-skinned young infants you may find it best to leave out the mustard altogether. Indeed, the oil-silk jacket alone will often serve you a good purpose.

Henoch, a recent German author, surrounds the chest with a cloth wrung from cool water, a layer of cotton batting and an oil-silk covering. He advises a renewal of this dressing so often as every half hour if there is much fever; or once in an hour or two if the fever is inconsiderable.

While my preference is for the mustard and flaxseed, it must be conceded that the frequent changing of the cool water dressing would tend to prevent pulmonary collapse by compelling deep inspirations.

Some authors, recent as well as old, counsel dry-cupping of the chest, I am not averse to this practice, but am of the opinion that we have a more effective derivative and counter-irritant in the above applications, because they act on a much larger surface.

After secretion is established, it is apt very soon to become super-abundant. The loosening mixtures prescribed at first are henceforth out of place. The medicines from which we may now derive the most benefit are of those known as stimulating expectorants. One of the best of these is carbonate of ammonium. The following is a pretty efficient combination:

℞.—Ammoniæ Carb., ... grs. xxx
Syrupi Senegæ,
Tinct. Opii Camph., . . . āā ℥ss
Syrupi Tolutani Bals., . . . ℥iss
Aquæ, ... ad. ℥iv—M.
Signa.—A teaspoonful every third or fourth hour to a child of one year.

I would have you remember that these stimulating expectorants are not admissible during the first stage

of bronchitis. If given before secretion is free they can do no good but may do harm.

When there is troublesome dyspnœa from accumulating secretion, you may secure prompt, though too often but transient, relief from an emetic. For this I have always resorted to ipecac; there are other drugs as good. By all means avoid powerful depressants like antimony.

If late in the disease there are signs of carbonic acid poisoning, be chary of emetics, as they usually fail to act, and add to the prostration. In this condition Dr. Day, an English authority on children's diseases, advises chloroform with ammonia; here is his formula:

℞.—Ammoniæ Carb., . . . grs. iv
Chloroformi, ... ♏xx
Syr. Bals. Tolutani, . . . ℥ss
Aquæ, ... ad. ℥ij—M.

Sig.—A teaspoonful for a child of one year.

Though opiates are to be used warily in acute bronchitis, they are occasionally necessary. I have seen a single grain of Dover's powder, coupled with a warm foot-bath, carry a two, three, or four years old child from a state of extreme restlessness to one of comparative comfort and repose. But when secretion is abundant and the dyspnœa considerable, you will have a care not to induce a profound or a prolonged sleep by opium or other narcotic.

Do not allow your youthful zeal for medication to cause you to forget the importance of proper support. In severe cases, with labored breathing, strength is lost rapidly unless the nutritive processes are kept active. Give milk or animal broths often, and give stimulants. Infants, like aged people, bear well, and often need stimulants in acute diseases.

Furthermore, in bronchitis a frequent change of position is not only allowable, it is necessary. Do not attempt to keep the infant on its back, for thus the secretion gravitates to the posterior parts of the lungs, and stays there. But change frequently, as, indeed, the instincts of the little one prompt it to do for itself. Lying on the stomach across the nurse's lap is a posture especially favorable to the gravitation of the discharge towards the mouth.

When a child has a chronic bronchial affection the first step towards its successful treatment is to ascertain the cause. If you find it to be syphilis, or scrofula, or tuberculosis, you will shape your treatment accordingly. An occasional emetic does good by clearing the tubes and stimulating them to a healthy activity. Steam inhalations, suitably medicated, and stimulant embrocations to the chest are of service.

℞.—Lin. Saponis, ... ℥iij
Tinct. Capsic., ... ℥iiss
Aqua Ammoniæ, ... ℥iv—M.

Signa.—Apply daily to the chest, with friction. For many cases cod-liver oil is a prime remedy.

In some children, one cold follows so closely on the heels of another that the bronchial tubes are seldom free. This tendency to cold-taking may be overcome by daily exercise out of doors without any extra wrapping of neck and chest, and a cold sponge-bath nightly at bed time. Some cases of chronic weakness and catarrh of the breathing tubes are surprisingly bettered by a change of residence.

ORIGINAL ARTICLES.

IRRIGATION OF THE COLON.

By CHARLES W. DULLES, M.D.,
SURGICAL REGISTRAR TO THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

As we are now getting into that season when diseases of the intestines carry off the greatest number of victims, I desire to call attention to a method of treating inflammations of the colon, which has never —as far as I know—been at all generally adopted or even understood in this country; although it is not uncommonly practised in Europe. It is not difficult or dangerous; on the contrary, it is simple and easy to carry out, and it cannot possibly do harm. The method was called by Dr. Alois Monti, of Vienna, whom I saw practice it often in 1876 and 1877, "irrigation of the large intestine."

It is carried out in the following manner: The patient being placed on the side, or back, or with the belly downwards, and the pelvis a little elevated, a large, moderately flexible catheter, if for an infant or a child—or a stomach tube, if for an adult—is inserted into the rectum. To this is attached, by a tube, a reservoir of water,[1] the height of which can be varied as may be required.

The water is now allowed to flow from a height of about two feet until the rectum is distended; meanwhile the end of the catheter or tube in the rectum is pressed gently but steadily upward toward the left iliac fossa. Very soon it will be found that the water has opened out the folds of the bowel and straightened the curves, so that the tube finds its way beyond the sigmoid flexure and into the descending colon. Unless the operator be very unskilful it may now be pushed gently on, the flow of water continuing without interruption, until it reaches the left hypochondrium, when the transverse colon becomes the descending.

The flow of water is now to be continued until the whole colon, all the way to the cæcum, has been gently distended; the operator assuring himself of this by the amount of fluid used, and by palpation and percussion. The tube is now withdrawn and the operation is complete.

The fluid remains in the bowel a variable length of time. Sometimes it begins to come away in a few minutes: but it sometimes remains a half an hour or more.

This method I have seen used by Monti, for various inflammatory disorders of the large intestine, as well as to cause expulsion of worms and flatus; and I have myself used it a number of times with results calculated to give me great faith in its usefulness.

The most striking case, I now recall, occurred in 1878, when I was summoned in the night to an infant a few months old, whom I found screaming and struggling with the pains of acute colitis. I took it on my knee, had cool water and a fountain syringe brought, attached the silver catheter from my pocket case, oiled it and slipped it first into the rectum and then up to the bend of the colon, and allowed about a pint and a half of water to flow in at that point. As the water filled the bowel the child's struggles and cries ceased, and it actually went to sleep before I was done, and only waked when the water began to be discharged.

Such striking results cannot be considered the rule, of course; but there can be no doubt that so complete a lavement must be of advantage in

[1] A fountain syringe or any of its substitutes serves this purpose well.

soothing the angry lining of the bowel and diluting and bringing away both the cause and the products of irritation.

To fill in the outlines of the method a little, I will add that in general the fluid used should be cool, not cold, water. It is rarely necessary to use astringents. When they are desired, the best is alum, in a one or two per cent. solution, with perhaps a few drops of laudanum added. The irrigations may be frequently repeated; and, in cases that do not get well promptly, various temperatures may be tried—from 70° or 80° to 40° Fahr.—depending on circumstances.

The amount of fluid to be used varies with the age of the patient. It should always be enough to fill the *entire* colon. An unweaned infant may require more than two pints, an adult several quarts.

No real syringe should be used if hydrostatic pressure can be obtained; though, if this is not to be had, I have found the syringe, carefully and slowly used, will serve very well.

Thus far I have referred mainly to such intestinal troubles as are most frequent in summer. The method is, I think, invaluable in all inflammatory affections of the colon, from diarrhœa to dysentery, and useful—for reasons I can not go into now—in inflammation of the small intestine also.

Before leaving the subject, I want to speak of another use which I learned by experience last winter. I was called into the country to see a child about two years old, whom I found in convulsions. The use of revulsives had been tried without effect. I could get nothing into its mouth to produce vomiting or catharsis. The means at hand were very limited. I was satisfied from the history that the convulsions were due to irritating ingesta. I concluded to see if they were in the colon. So I took my silver catheter, attached it to a syringe, passed it through the anus, distended the rectum, pushed the catheter up till I could feel it through the abdominal wall, just below the left costal cartilage, and filled the whole colon with warm water, in which a little soap had been stirred. After about three minutes, the water came away and brought a mass of undigested and indigestible stuff that was quite sufficient to cause the trouble. The convulsions stopped, and the child got quite well.

From this case, I think, a useful hint may be gathered, and I am sure I shall repeat my experiment the next time I have to treat a case of convulsions due to intestinal irritation.

I recall attention to this method because I think it too valuable to be allowed to be forgotten; and I hope that it may prove a helpful adjunct to our other therapeutic resources against intestinal disorders.

ON THE PROPHYLAXIS OF PUERPERAL FEVER.[1]

By RUDOLF TAUSZKY, M.D.,

ATTENDING PHYSICIAN AND SURGEON TO THE MOUNT SINAI HOSPITAL, OUT-DOOR DEPARTMENT (DISEASES OF WOMEN), ETC.

Within the past few months quite a number of parturient women, many of whom were attended by midwives, or by physicians with but a limited obstetric experience, have died in this city in consequence of the diseases generally comprised under the name of "childbed or puerperal fever," who, in my opinion, could have been saved had the proper prophylactic and remedial agents been used in time, in accordance with the views published by Prof. Carl v. Braun, of Vienna; Barnes, of London; Prof. Fordyce Barker, of this city, and many other well-known authorities, both here and abroad, too numerous to mention, who have made the subject under consideration their special study.

My own experience in the art and science of obstetrics, extending now over a period of more than a quarter of a century, obtained as early as 1855, in the lying-in wards of the University of Pesth, in Hungary, under the late Prof. Semmelweis, and having been quite extensive, I deem it in the interest of science to publish it, with a view of calling the attention of the profession to the fact, as will be proved by a few statistical quotations from lying-in wards abroad, that the death-rate from puerperal fever can be diminished to a minimum—hardly one per cent.—if the measures which I will enumerate further on be adopted for the prevention and the cure of puerperal fever.

Already as early as 1847, Prof. Semmelweis, then of Vienna, enunciated the now well-known fact that puerperal fever, so called, was caused by a contagious or infectious *materies morbi*, communicated to parturient or pregnant women by the hands or instruments of accoucheurs, midwives, or nurses; especially was this the case in lying-in institutions, causing, according to Kiwish, a death-rate of eighty per cent. from septic pyæmia. Up to the time mentioned, the various febrile diseases affecting women during the puerperal state were termed by Cruveilhier and others "hospital fevers." Semmelweis maintained that the cause of these fevers was not to be ascribed solely to confinements taking place in hospitals or lying-in institutions, but that the septic material was often brought into these institutions from without, from dissecting-rooms, or from patients who had been suffering from infectious diseases. Semmelweis proved his assertion by experiments upon rabbits and other animals, upon whom he produced pyæmia and septicæmia by introducing into their genitals decomposed putrid matter, obtained from the bodies of persons who had died from infectious or septic diseases; and, again, he demonstrated that one animal thus inoculated and infected, was, in its turn, a source of infection, producing the same fatal results in other animals, either during the latter part of their pregnancies, or after having given birth to their young.

Hausmann's experiments, in 1868, instituted upon rabbits, by injecting fluid taken from a cadaver where death resulted from infectious peritonitis, inevitably caused the death of the pregnant animals, even if their genital tracts were uninjured, provided, however, the experiment was instituted shortly before or soon after labor—nay, even the injection of healthy pus into the genitals of female animals, at the time mentioned, if their vaginal or the mucous membranes of the uterus were wounded or injured,

[1] Read before the Obstetric Section of the New York Academy of Medicine.

caused always pyæmia and death; but the effect was negative if pus, serum, or blood was thus injected upon the genital mucous membranes of unimpregnated animals. Not every septic fluid produced ill-effects upon the uninjured mucosa of the unimpregnated animals, but it was, on the contrary, inevitably followed by a fatal result if applied in cases of uninjured genitals shortly before or during labor, thus showing conclusively the great susceptibility to infection with consequent fatal results during the advanced pregnant or the puerperal state.

Childbed fever attacks the wealthiest as well as the poorest women. It attacks child-bearing women of all ages, and of varying constitutions, especially those suffering from primary endometritis and vaginitis during pregnancy, who are then liable to parenchymatous metritis and metrophlebitis after childbirth. The catarrhal secretions, according to Braun, often cause catarrhal ulcerations of the denuded mucosa, which then becomes the gate of infection and the starting-point of phlegmonous inflammations. Some cases of puerperal fever undoubtedly originate from the absorption of the foul stuff of decomposition from retained blood-clots, portions of undelivered placenta, the membranes, purulent matter formed in utero, or from wounds or bruises, and subsequent gangrene of the tissues of the genital tract, where the puerpera takes the poisons of her own making, especially in cases of tedious or instrumental labors, which Barnes appropriately terms autosepsis, self-empoisonement; but by far more frequently do we find puerperal septicæmia caused by the introduction of septic matter from without, called by the same authority "exosepsis," in his article on antiseptic midwifery in the January number of the *American Journal of Obstetrics* of this year.

Primiparæ, especially older persons, are oftener attacked than pluriparæ, especially during the winter months, when not only its frequency, but, at the same time, the mortality is greatly augmented. In winter, erysipelas, phlegmonous and catarrhal affections of the cellular tissues and the respiratory tract occur oftener than at other seasons of the year, so that, for the same reason, inflammations of the genitals during the puerperal state are often the products of the same influences.

The death-rate from puerperal fever is far greater than from small-pox. From the latter only 3 persons died out of every 100,000 inhabitants in 1875, since the law of compulsory vaccination had been enforced in Prussia, while in the same year 39 per 100,000 inhabitants died there from childbed fever.

A commission appointed, in 1878, by the German Government to investigate this subject ascertained the fact, in addition to what I already quoted above regarding mortality, that 8872 women die annually in Prussia of puerperal diseases without being in all cases the consequences of difficult or dangerous, but often of easy and natural, labors. During the year mentioned 60,209 women, who were under fifty years of age, died from all diseases; of these, 12.09 per cent. lost their lives from puerperal fever in the country mentioned.

One of the most frequent causes of the diseases during the puerperal state, as reported by the same authority, fully confirmed Semmelweis's views above referred to, viz., that many otherwise healthy women who were attacked by puerperal fever were beyond doubt proved to have been infected by one and the same attendant, even if the labors were natural ones. This view of the possibility and transmissibility of the puerperal-fever poison is shared by Schroeder, M. Bochr, Fassbender, H. Martin, Lochlein, and many other authorities.

I am acquainted with a physician, who some years ago lost quite a number of patients, who died of puerperal fever—septic or pyæmic—while under his care. Being followed by such ill luck, he finally left this city and went abroad for a time, to avoid being the direct and, of course, the involuntary cause of any more deaths among his patients.

Nearly 500 women in the prime of life, lose their lives annually, in this city, from eclampsia parturientium et puerperarum, puerperal peritonitis, metrophlebitis, pyæmia, or lymphangitis. In Vienna, "Allgemeines Krankenhaus," from 1834 to 1848, of 39,156 women delivered, 3,486 died; from 1849 to 1863, 61,170 births and only 998 deaths; from 1863 to 1878, 61,949 deliveries and only 825 deaths from puerperal fever. In 46 years, of 162,275 women (of these, nearly 100,000 were delivered under the supervision of Carl Braun), 5,309 died of childbed fever. By examining these interesting figures as published by Braun, I was convinced of the fact, not generally known, that before Semmelweis's teachings had been heeded the mortality in the Vienna lying-in institution ranged, annually, between 5 and 10 per cent. and over; while since the precautionary measures which I will presently enumerate were adopted, the death-rate never exceeded 1.3 to 2.5 per cent.

These means, as practised in Vienna, I have myself adopted and applied during my practice of obstetrics, and I am able to state that I have never had the misfortune of losing a single case in my own practice from puerperal fever.

This good luck I do not claim as being due entirely to good management on my part. It will be impossible, as far as our present knowledge is concerned, to prevent the occasional occurrence of puerperal fever under the best hygenic, dietetic, medical, and surgical treatment, but I maintain without fear of contradiction that we can reduce its percentage, and are able to prevent the spread of the infection from one parturient to others who are healthy at the time of labor, and even after tedious instrumental deliveries we may save many lives which would otherwise be inevitably lost.

The prophylactic measures are briefly the following: The hands of every attendant should be carefully cleansed and disinfected with a 3 per cent. watery solution of carbolic acid or other disinfectant, and afterwards oiled with carbolized oil of the same strength, before examining the genitals of the parturient or pregnant woman; for the removal of the bad odors from the hands, a one-half per cent. solution of permanganate of potash is used; for the black stains caused by it, a 10 per cent. watery solution of dilute hydrochloric acid is applied until the

hands become bleached. The bowels of the parturient should in all cases be moved by an enema of white Castile soapsuds, a whole basinful, with one or two tablespoonfuls of melted lard; the water should be drawn if necessary by a catheter (soft rubber, Nélaton's) which has been thoroughly cleansed and disinfected. The hand should never be introduced into the uterine cavity in natural labor. The vagina and vulva to be disinfected with a lukewarm watery solution of thymol or salicylic acid, 1 part to 1000 aq., with the addition of 3½ parts of glycerine and 7½ of alcohol, in case the thymol be preferred. This cleansing injection is to be used in every case of labor before parturition, but after delivery injections are only found to be useful after difficult operations, very tedious, protracted deliveries, especially after the artificial separation of the placenta, internal version. The uterine cavity is washed out in these cases preferably by a fountain syringe to which a flexible, well-cleansed, and disinfected rubber tube is attached.

The thymol or salicylic acid, lukewarm, of the strength mentioned, is safer than carbolized water. The solution is allowed to flow into the cavity with the least pressure, and in sufficient quantity, from one to two or more quarts at a time, until the water returns free from shreds, blood, mucus, etc., and has only the odor of the thymol; whenever the lochia become in the least offensive, the injections are to be repeated. I have used them in cases of the artificial separation and removal of the placenta, etc., with the happiest results, from six to eight times during twenty-four hours. Slight lacerations of the perineum, or wounds made by episiotomy, are closely united by serre-fines, or, if extensive, by metallic sutures; bruised wounds of the vagina should be pencilled with pure tincture of iodine, muriated tincture of iron, thymolized oil, or, according to Fehling, with salicylic powder (one to five of starch) applied two or three times a day. Under this treatment, they usually heal in from three to five days.

Free ventilation, and the utmost cleanliness in and about the lying-in room, *cannot* be substituted by any amount of disinfection. The thorough disinfection of the utensils, the bedding, and all instruments in use ought rigidly be insisted upon; all emotions are to be scrupulously guarded against: the secretory and excretory organs of the patients should be kept in as healthy a condition as possible. Chilliness of the patient should be carefully obviated, and the thermometer used twice daily in the well-dried axilla of the patient. The child is applied to the mother's breasts about two hours after delivery, as soon as she has had some rest, and no tea or other food allowed the new-born except a teaspoonful or so of sugar water in very hot weather. The care of the mother's breast deserves special attention, since fissures, eczema of the nipple, often cause pain, nervous excitement, restlessness, and often fever. Cold applications—tannin and glycerine, slight touching with nitrate of silver or Peruvian bark 4, to 8 of almond oil, 6 of mucilage of gum arabic, and 35 of rosewater, applied every hour, will heal sore nipples in a few days.

To obviate hemorrhage post-partum, is to oppose septicæmia, says Barnes, justly. I therefore always give 4 grammes (3j) of fluid extract of ergot (Squibb's or Wyeth's), even in natural labor after its completion, and repeat the dose, given in sugar water, until the uterus has firmly contracted, and it becomes evident that no portion of the placenta, the membranes, or of blood has remained in the vagina or the uterus. The least hemorrhage from the genitals is treated by tincture of iodine, persulphate of iron, hot-water injections, the silver wire, or carbolized silk ligature. Contrary to the teachings of the Vienna School, I apply the abdominal binder and a pad or napkin over the uterus. This practice, also recommended by Barnes, tends to aid in contracting the uterus, and, moreover, counteracts the suction or aspiration force and the entrance of air into the genitals, one of the factors of putrefaction. I differ, however, from Barnes, as being unnecessary, to make intra-uterine carbolized injections, 2 per cent. solution once or twice daily from the second day, or even after natural delivery. I use injections only when the lochia are offensive. I deem it superfluous, and even dangerous, to use vaginal or intra-uterine injections after natural labor, unless indicated as stated above. If fever symptoms appear, as shown by the thermometer placed in the axilla, I also syringe the vagina several times a day, but not otherwise. The intra-uterine injections are used in puerperal fever with great benefit, still, in Germany, there are more opponents to, than advocates of, intra-uterine injections; they prefer drainage tubes of soft rubber in suitable cases. Before draining the uterine cavity, or making injections into the same, the straightening of the ante- or retroflexed uterus has to be resorted to, otherwise these means cannot be usefully applied. Frankenhauser (1879) considers the prophylactic intra-uterine injections post-partum the cause of many unfavorable terminations, especially as the cause of a considerable rise in the temperature. He justly says we run the risk of thereby introducing air, and are never sure of washing away all the putrefying material from the uterine mucosa. He objects to intra-uterine injections, as well as the introduction of the hand into the uterus, unless absolutely unavoidable. If the latter becomes necessary, he does it under the carbolic spray. He even examines all his patients before, during, and after labor under the carbolic spray. Salicylic water injections are also sometimes followed by evil consequences. He says: "I have had no untoward symptoms from intra-uterine injections with salicylic water in cases where I had to introduce the hand into the uterus for adherent placenta, turning, atony, and post-partum hemorrhage; but I object to the indiscriminate use of disinfectant solutions after normal labor as an unnecessary and meddlesome procedure."

Many cases of child-bed fever being caused by the infection from one case to others, the immediate isolation seems as imperative as if it were a case of cholera or small-pox.

This precaution is now rigidly carried out in all lying-in institutions with the happiest results, as detailed by Tarnier at the last International Congress held in London. Its quotation may be of use to those who are not familiar with this excellent

method. He says, "Even in 1856, when I was Interne at the Maternité Hospital, the mortality was five per cent., this was now reduced to two per cent. in hospital and three-quarters of one per cent. in the pavilion I had constructed a few years ago. Each patient there has a separate room, entered from without, so that a nurse can only pass from one to another by going outside into the open air. The furniture is of japanned iron, the floors, walls, ceilings are of impermeable concrete. The mattresses and pillows are stuffed with cut chaff, which is burnt after use in every single case. Instead of McIntosh sheets, one of brown paper, made impermeable by pitch, is used; this is burnt after use." For the washing of the genitals, he uses weak solutions of bichloride of mercury, as being the best and most powerful germicide.

Dr. Fancourt Barnes, in the British Lying-in Hospital, delivered all his patients under the carbolic spray. All washings, syringings, and examinations are done with carbolic solution; spray (1 to 80 aq.) is continually playing in the ward. To secure uterine contraction, each patient has a mixture of quinia, ergot, and opium, three times a day, for the first week. Since instituting this treatment, he rarely finds it necessary to use intra-uterine injections, and only exceptionally finds any rise in the temperature during the lying-in. I deem the proper prophylactic measures of disinfecting the utensils, the air, the hands, the instruments in and about the lying-in room, of the utmost importance, and I have quoted, at length, authorities in support of the correctness of this practice, the more so, since a short time ago I read, in the *New York Herald*, a lecture by Prof. Chandler, of the New York Health Board, who asserted that money spent for carbolic acid was practically wasted. He says it does not kill germs of disease! Sacicylic acid, thymol, permanganate of potash, *bichloride of mercury*, and in fact all the chlorides and sulphates, etc., will kill vermin, and destroy animal and vegetable life if used in sufficiently large quantities, and even by its moderate, non-poisonous application, we can surely prevent putrefaction by the agents mentioned, as proved by the microscope. If, for instance, the bacteria and micrococcus of diphtheria be examined with a magnifying power of, say, five hundred diameters, they are seen jumping and dancing helter-skelter on the stage within the visual field, and if the same bit of membrane showing these organisms be placed in a solution of carbolic acid, they soon die and show no sign of life at all. It is true, we have only the means at our command to prevent putrefactive changes; if these have once taken place, we have no agents which will restore the putrefied substance to its former healthy condition.

Antiseptic surgery and also antiseptic midwifery have already stood the test of time as to their high value, and we need not fear that as preventive, though not as curative, agents against infectious diseases, these will ever be found wanting.

Rest after delivery in the recumbent posture with the head and shoulders raised, for the purpose of aiding uterine drainage, for at least eight or nine days, should in every case be insisted upon. Many women in this city delivered by uneducated, ignorant midwives, especially among our foreign population, are poisoned and often killed by having the infection brought to them by their attendants, whom I have often found to neglect the necessary cleanliness and ventilation of the lying-in room. Soiled clothing, urinals half or quite full of decomposing urine, fecal matter, and lochial discharges, left there for hours, no doubt become the foci of puerperal-fever poison. All midwives should, therefore, have a license from the city or State authorities before being allowed to attend confinement cases, and should be examined as to their fitness for assuming the great responsibility during the agonies of the parturient, often victimized, woman. The licensed midwife should be furnished with printed rules by the health authorities, similar to those recommended in 1878 by the puerperal fever commission, viz., that in confinements the putrefaction of the secretions of the mother be prevented; that the labor be terminated before there is any offensive discharge from the vagina; that the causes of putrefaction, the cocco-bacteria, be destroyed by thorough disinfection; that all the attendants be instructed to use disinfectant vaginal injections in all protracted and tedious labors, and to disinfect their hands in all cases before making a vaginal examination; to report to the sanitary authorities every case of puerperal fever occurring in their practice; that puerperal fever be classed among the infectious and contagious diseases; that the authorities be notified even of the occurrence of every case of high fever during or after childbirth.

To prevent the spread of puerperal fever, midwives, unless licensed, should not be allowed to attend confinement cases, making such attendance punishable by a fine and imprisonment. Every attendant should carry a two per cent. solution of carbolic acid to every labor case. Instead of diapers or sheets, carbolized cotton, tow or oakum should be used under the genitals to receive the lochial discharges, and be burned before becoming offensive. Among tenement-house occupants, I have often noticed the throwing of the after-birth into the privies and water-closets, where they decompose and are the cause of many infectious diseases. The health laws in this country say nothing regarding the disposal of the after-birth, which should be burned or buried in every case. Baths are thought to be injurious during confinement and even during pregnancy, not only by the laity, but also by many physicians. If the parturient can be conveniently lifted into a bath-tub and immersed for a few minutes in it and removed to her bed without the least exertion on her part, I know of no preventive measure against puerperal fever which surpasses its utility. If these means were generally carried out, a very small percentage of women would die from childbed fever—especially after natural labor.

CASE OF INTESTINAL OCCLUSION.

BY L. D. WILSON, M.D.,
OF WHEELING, WEST VA.

OBSTRUCTION of the bowels, while by no means rare, possesses features of peculiar and striking interest. The generally sudden onset; the usually previous good health of the person attacked; the extreme distress and suffering accompanying it; and the almost certain and speedy death to which the sufferer is doomed, all combine to excite the liveliest emotions of sympathy; while the paucity and, for the most part, the inadequacy of our remedial resources are the occasion of many melancholy reflections. The difficulty of determining in a given case either the seat or the cause of the difficulty is in most instances perplexing in the extreme; and the treatment, instead of being based on a rational consideration of the actual conditions present, is forced to take counsel of doubt and conjecture. To carefully and succinctly note the symptoms and pathology of every case that may differ in either respect, no matter how minutely, from those which are already understood, is the only way in which our knowledge as respects diagnosis can be widened; and this must furnish the excuse for presenting the following case:

CASE.—On the afternoon of May 6, 1882, I was called to see C. F., a widow, aged sixty-five, of spare habit, and somewhat broken by age. She was complaining of a severe pain in the left hip, which had come on suddenly during physical exertion, and which seemed to extend from thence across the lower portion of the abdomen just over the region of the bladder, until it almost reached the opposite side. There had previously existed considerable lameness in the left leg, the origin of which I was not able to learn, except that the leg was affected about the time of the menopause, some fifteen years before. She ascribed this lameness to "change of life, which," as she expressed it, "had settled in the hip." There was stated to be some shortening of the limb, and also that at various times in the past she had suffered from attacks of pain similar to the present, except that in the previous attacks the pain seemed to be limited to the hip and limb. These preceding attacks of pain always seemed to be caused by some unusual exertion or fatigue, and this last attack was ascribed to the same cause, as she had been, for several days before, much more actively engaged than usual in household duties. She had also been troubled for many years with frequently recurring colicky pains in the lower part of the abdomen, and the stomach and bowels would almost daily be more or less distended with gas, giving rise to frequent eructations. Her appetite had long been poor, and the bowels alternately constipated and relaxed, and latterly she had been oppressed by a gradually increasing feeling of weariness and fatigue. After a day of unusual exertion, as before stated, and while still at her work, she was seized with this sudden pain, which was soon followed by vomiting. An examination developed the following condition. There was marked tenderness on pressure over the region of the bladder; some fulness of the abdomen, but neither hardness nor tenseness on manipulation, and no indications of any tumor or enlargement of the viscera. The pulse was full and regular, and but little accelerated; the tongue very slightly furred, and moist; and the skin slightly yellow. There was no headache; the temperature seemed to be normal—no record of it was taken, however—there was no disturbance of breathing, and the mind was perfectly clear. The bowels had not acted on this day, but there had been a slight motion on the day before. Owing to her evident suffering, and desire for speedy relief, no special investigation of the condition of the limb was undertaken for the present, especially as she was used to such attacks, and a hypodermic injection of morphia was given over the left hip, and a morphia mixture ordered at intervals until pain should be relieved, after which a mild cathartic was directed to be given. At the visit the next morning it was found that the pain in the hip had been almost completely relieved; the tenderness over the lower part of the abdomen was somewhat less, the fulness and softness remaining unchanged; but there had been frequent vomiting of a bilious character during the night, and the bowels had not been moved. This, of course, excited no surprise, as all the medicine given for that purpose had been thrown up almost as soon as taken. Urine had been passed in moderate quantity; the skin was still natural; and the tongue not changed. On inquiry at this visit, it was learned that she had had a hernia many years before, but that it had never given her any trouble. Examination revealed on the left side the hernial opening, which freely admitted the index finger almost to the second joint, and which seemed to be occupied by a sac, which gave the impression to the finger of being considerably thickened at the depending fundus. This was freely movable; could be readily pushed up as far as the finger could reach; and there was no hardening, pain, tenderness, nor, indeed, any indication of strangulation. As the stomach was quite irritable, all internal medication was suspended, except such as was directed to the relief of this symptom, and hot applications were ordered over the tender region of the abdomen.

On the third morning, the patient was found to be in much the same condition as on the day before, except that the tenderness over the abdomen was very much diminished, but there was rather more fulness; the vomiting had continued, the stomach rejecting everything taken into it. Other measures for the relief of this symptom were directed for the day, and an enema was ordered in addition. The patient was visited again about 5 o'clock P.M., and there was found but little change from her condition in the morning. The tenderness over the abdomen had almost disappeared; but while the abdomen was still soft and pliable, it seemed rather fuller. The pulse was still full and regular, but somewhat accelerated; the skin cool and moist; the tongue moist and velvety. The vomiting had been much less frequent, but there was about the vomited matter, which was of a dark-brownish color, and liquid, a faint fecal odor. She complained, too, that the remedies used to quiet the stomach caused some

oppression about the chest, and, on this account, they had not been regularly continued. The enema had been given, but nothing was brought away. As it was now plain that there was obstruction or strangulation of the bowel at some point, no further efforts were directed to the stomach, but as the patient's general strength seemed but little affected, it was deemed best to give the treatment by enemata a further trial. This was accordingly directed, and instructions given for fully carrying it out. About midnight, I was hastily called, the messenger stating that she was much worse. I saw her shortly afterwards, with Dr. A. F. Stifel, of this city, in consultation. We found her apparently much exhausted; pulse 102, weak and somewhat irregular; skin cool; countenance shrunken; vomiting frequent, and of a very marked stercoraceous character; abdomen somewhat fuller, but still soft, and but slightly tender on pressure. She had been so averse to being disturbed that the directions in regard to the treatment given at my former visit had not been carried out. After a careful examination, it was agreed that the only alternatives remaining to us were either that of persevering with the enemata, or the desperate one of opening the abdominal cavity and attempting to relieve the difficulty by such further procedure as might be indicated. This latter plan was at once rejected by the patient and friends, but, after some persuasion, we were permitted to make a further trial of the former. Accordingly, a rectal examination having revealed nothing, an enema was given, which at once passed away without any result. After waiting half an hour, another was tried, with no better success. As the patient was averse to any further efforts to relieve her, it was, at the suggestion of Dr. Stifel, agreed to put her fully under the influence of opium. Accordingly, one-third grain of morphia was given hypodermically, and she was left for the remainder of the night. At the visit next morning, Dr. Stifel accompanying me, the patient was found more comfortable; had slept during the intervals between the acts of vomiting, which had been much less frequent; the pulse had recovered strength and regularity, and was somewhat less frequent; the abdomen, with the exception of somewhat further increased fulness, was unchanged; skin cool; and the secretion of urine, which had been very scanty the day before, was again moderate in amount. Morphia, one-third grain, was again administered, and the patient left. At the evening visit, she was found to have passed a more comfortable day than at any time since her illness began. The pulse was full, regular, and about 94; skin cool; mind clear, with less mental depression; abdomen yet further enlarged, but still without anything like tenseness or hardness in any part, and but very slightly tender on pressure, the tenderness, as at first, being limited to the lower part. The vomiting, however, still continued. Brandy and water, which had been given frequently in small quantities for the last day or two, although vomited soon after being taken, was directed to be continued; morphia was again given, and, as the patient seemed disposed to allow it, an enema of olive oil was directed. On the next morning, I found the patient dying. Cold, pulseless, shrunken, and wandering in mind. The olive-oil enema had been given without result; but the vomiting had almost entirely ceased during the night. Throughout the entire course of the attack, there had never been any straining or inclination to have a movement of the bowels. Death took place about 11 o'clock A.M., on the fifth day of her illness.

Autopsy.—After some hesitation, a post-mortem examination of the parts chiefly implicated was allowed. This was made about nine hours after death. The body exhibited marked cadaveric rigidity, and the abdomen was much distended. Upon opening the abdominal cavity, and drawing the omentum aside, the coils of the small intestine which first showed themselves were found to be distended with gaseous and dark liquid contents, but there were no adhesions between these distended coils, no deposit of lymph on their serous covering, nor were there any special evidences of congestion. On drawing them aside, the colon was found only moderately distended with air only, neither liquid nor solid matters being noticed. Upon the left side, a prolongation of the omentum was found extending downwards, and upon examination it was found to extend into the hernial sac before mentioned, and to have formed very strong adhesions within it, but there was no stretching or strangulation. The adhesions were so lax that the imprisoned omentum could be easily drawn out as much as two inches before putting them on the stretch, and so large was the ring, that the finger could easily be introduced alongside of the omental prolongation as far as the bottom of the sac. All these manipulations were very carefully and cautiously made so as to disturb the parts as little as possible. Returning to the cæcal region, the appendix vermiformis was found to be unusually long; the ileum at its entrance into the colon was empty and completely collapsed, and on tracing it carefully backwards quite a number of coils, some of them very slightly adhering to each other, were found, and all of them in this empty, corrugated condition. After having traced the ileum in this manner for more than a third of its length, a sharp bend, almost an angle was found, and just before the collapsed portion merged into the angle, it abruptly enlarged and continued as the distended portion from thence to the duodenum and stomach. In contact with this angle or knuckle, another knuckle of the distended portion of the bowel was lying, very much as in the closed fist one finger lies against its fellow, and between them a recent and very slight adhesion had formed, the adherent surfaces not being larger than a gold dollar. Within the angle of the occluded knuckle of intestine was an old cicatrix about one inch in length. This cicatrix had evidently been parallel with the long axis of the bowel, and its contraction had been the means of producing the sharp angle which existed, and also no doubt caused a narrow stricture of the bowel at this point. Surrounding the angular knuckle, and about one inch from its apex, was an indistinct marking, as if caused by the knuckle having been held for a long time against the hernial

ring while slightly protruding through it. At the distal end of the cicatrix, reckoning from the pylorus, and at the point where the adhesion existed, there was moderate inflammatory thickening, evidently recent, of the intestinal coats, and this no doubt converted the stricture from a permeable into an impermeable one. So complete was it that neither liquid nor air could be made to pass through it. No other organs were examined.

Remarks.—In reviewing the history of this case in connection with the autopsy, the first question that arises naturally is—To what cause was the very slight and circumscribed inflammation at the seat of stricture due? The first thought would be that it most probably had been caused by the lodgement in the constriction of some solid substance taken with the ingesta; and this, indeed, may have been the case, but no satisfactory evidence that such had been the case was discovered. Not to multiply surmises, the conclusion arrived at was as follows: That an adhesion between this knuckle of bowel and either the portion of omentum included in the hernial sac, or a part of the hernial ring, had existed for an indefinite period, perhaps from the time the hernial protrusion occurred; that the occasional attacks of pain which had always been referred to the hip and limb, were in reality located at the point where this adhesion existed, and were caused by some dragging or partial laceration of the fibres forming it; that, finally, some unusual strain caused the adherent parts to separate, the rupture of the adhesions exciting just enough inflammation to cause the slight thickening necessary to close up the already narrow passage. This hypothesis seems to fully explain the difference between the final and the previous attacks of pain in the hip. All the previous attacks had been limited to the hip and limb only, while the last one seemed to extend across the abdomen over the region of the bladder, and it was just back of this viscus that the occluded knuckle was found, where it had fallen against another portion of intestine and a slight adhesion between them had formed.

Stricture of the bowels caused by the process of cicatrization is quite rare. In a table of the causes of obstruction in 1547 cases given in Ziemssen, Ency., *Constrictions*, and under this head are grouped chronic kinks, different kinds of stricture, constriction by chronic peritonitis, adhesion, etc., occurred in 106, or about 7 per cent. Of this number, the short time at my disposal prevents any attempt at ascertaining the ratio of cases caused by cicatricial contractions to the other causes grouped under this head, but it must be extremely small. The causes of cicatricial stenosis are but few and of rare occurrence. Healing of dysenteric and tubercular ulcers are the most common, corrosive poisons rarely, and in very rare instances typhoid ulcers (this is much disputed), arrested fecal masses, foreign bodies, separated intussuscepta, syphilitic ulcers, etc. Rare as the cases of stricture of the intestines are, but a very small proportion of them are located in the small intestine. In 100 fatal cases of stricture given by Brinton, only 8 were situated in the small intestine. Bristowe states (Reynolds' Syst. Med.) that "stricture as a cause of death belongs, almost without exception, to the large intestine, and not only so, but at least three-fourths of the total number of strictures are situated below the middle of the transverse colon." This, of course, would be expected when we remember that the few causes of cicatricial stricture of the small intestine, viz.: Tubercular and typhoid ulcers, corrosive poisons, foreign bodies, separated intussuscepta, etc., must very rarely be present. It should also be stated that cicatricial stenoses have been found in both large and small intestine, of which no satisfactory explanation could be furnished. In all the list of causes of intestinal cicatrices, no one is found which seems at all likely to have been concerned in its production in the case under consideration, but that its causation was connected in some way with the hernia there seems little reason to doubt. On account of the very rare occurrence of cicatricial stricture of the small intestine, it might be well, perhaps, to make a comparison of the symptoms observed in this case with those of intestinal obstruction in general, and to note the points of similarity and difference.

1st. *Pain.*—This is one of the most usual symptoms in cases of obstruction. It may, and usually does, partake of the characters both of peritonitis and colic, although either may exist without the other. Painful peristalsis is the cause of much suffering and distress in most cases. The pain in the present case seemed to be altogether that of peritonitis, the actual pain lasting but one day, after that the condition was simply one of tenderness, which steadily and rapidly diminished. As in all cases of chronic stricture of the bowels, this patient was subject to recurring attacks of colicky pain previous to the final symptoms of obstruction, slight indiscretions in diet or undue physical exertion serving to excite them.

2d. *Vomiting* is stated to be "rarely if ever absent in these cases," and it is also thought to come on earlier and to be more persistent and severe, the nearer the lesion is to the stomach; the character of the vomited matters, too, is thought to be much modified by the seat of the occlusion. In this instance the different character of the ejecta followed in the usual order: 1, Contents of the stomach; 2, bilious in character; 3, then rapidly assuming the stercoraceous character. Vomiting usually continues to the last, although, as in the present instance, it may become much less frequent during the last hours.

3. *Constipation* is, however, the most characteristic symptom, and, in complete obstruction must, of necessity, always be present. In permeable strictures, on the other hand, especially when situated in the small intestine, it may not be prominent, and may even alternate with a relaxed condition.

4th. The *abdomen* is almost always more or less distended and tympanitic, but where the occlusion is high up there may be, on the contrary, flattening or retraction. Where the obstruction arises from fecal accumulation, tumors, intussusception, gallstones, etc., the cause may sometimes be recognized by palpation of this region, provided the conditions are favorable. Distention in this case was not

a marked feature, although it slowly and steadily increased, and there was tympanites from the first.

5th. *Urine.*—The condition of the secreting function of the kidneys was at one time thought to furnish an indication of the location of the difficulty. A marked diminution or suppression of the urine was thought to indicate that the lesion was high up, and on the other hand, if it was situated in the lower part of the ileum or in the colon, the urine would probably be normal in quantity. Later observations, however, do not confirm this. In the present case, the obstruction being near the middle of the small intestine, it would be supposed that the urinary secretion would be but little interfered with. In point of fact the urine was somewhat diminished at first, and on the third day it was scanty, but afterwards the quantity increased to a fair amount.

6. *The mode of attack* is a valuable aid to the diagnosis. Strangulation and intussusception are nearly always sudden in their onset; obstruction by gall-stones is almost always preceded by symptoms indicative of their presence; stricture and compression are more likely to be preceded by a train of symptoms such as presented themselves in the case before us, but it is also stated (Ziemssen) that a constriction not unfrequently remains latent for a time, and then suddenly goes on to occlusion.

7. *Prognosis* in these cases is very grave. Life may continue for several weeks, where the obstruction is in the lower colon or rectum. Death occurs more and more rapidly as the lesion approaches the stomach. In any case where enteritis or peritonitis supervenes, death follows rapidly. The average duration of an acute occlusion is given as six days, and varies from eight hours to thirteen days (Ziemssen).

8. *Treatment.*—It is not now proposed to go into a discussion of the subject of treatment. The rules governing the management of these cases are pretty clearly laid down, and in only one respect is there likely to be much variation from the present practice. The recent and brilliant achievements in the field of abdominal surgery force upon us the conviction, that operative procedures will play a much more prominent part in the future management of these cases than heretofore. Of all the causes instrumental in the production of obstruction, one only, viz., fecal accumulation, is in any proper sense amenable to treatment in any other manner. In all the others, palliative and expectant measures are the disappointing alternatives, and a careful consideration of the results attained by these fully warrants the conclusion that in an exploratory operation lies the greatest, and in the vast majority of cases the only, hope of relief.

CASE OF OUTWARD DISLOCATION OF THE RADIUS AND ULNA.

By JOHN A. SIEBER, M.D.,
of Ferdinand, Indiana.

In a paper on outward dislocation of the radius and ulna, which Dr. D. Johnston read before the Kentucky State Medical Society (see *Louisville Medical Herald*, 1879), he claimed the case he then narrated to be the second reported by an American surgeon. The majority of cases on record are from the French, who quote eleven complete outward dislocations of both bones. Prof. Gross says (*System of Surgery*, vol. ii. p. 144), lateral dislocations of both bones at elbow-joint, besides being extremely rare, can scarcely occur in any other than an incomplete form, and as a consequence of severe injury extensively implicating the soft parts; this undoubtedly is incorrect, as the case which I had under treatment and that reported by Dr. Johnson clearly prove.

The case which I now record is that of a little girl about nine years of age, who was returning home from school on the evening of November 21, 1881, when the accident occurred; it was while crossing a brook over which was placed a round log, and nearing the end she fell a distance of about two feet; the position of her arm while falling I was unable to learn; about two hours after the accident occurred I saw the patient at her home; found her in a sitting posture, crying, with her forearm nearly at right angles and resting the limb on her lap.

I requested the mother of the little patient to remove the sleeve of the dress from the injured arm; when I was astonished at the dimensions of the joint, thinking it impossible to have swelled to such a degree in so short a time; proceeding at once upon an examination, I could find no contusions nor lacerations, nor crepitation, and found that the enlargement was not due to swelling, but to a complete outward dislocation of both bones.

The internal condyle was very prominent, the skin stretched very tensely over it. Externally the olecranon process of the ulna could be distinctly felt with its neighbor, the radius, rotating in the lesser sigmoid cavity; the external condyle was beneath the radius, and required firm pressure to be distinguished; both the biceps and triceps were uncontracted and flaccid, and any attempt at flexion or extension brought forth piercing cries, while pronation and supination were not so seriously interfered with. I requested the father of the little patient to get his conveyance in readiness that we might take her to town, as it was necessary to administer an anæsthetic and also to procure assistance. Accordingly we proceeded to the office of E. J. Kempf, M.D.; here she was placed under the influence of chloroform (Squibb's); the doctor also examined the case very carefully and verified my diagnosis.

As to reduction, it was easily accomplished; grasping the elbow-joint with my left hand, and the wrist with my right, I made extension and gradual flexion; with the hand encircling the joint, the olecranon was pressed inward, and both bones slipped readily into place with the usual soft snapping between the articular surfaces.

The arm was put up in the ordinary dressing with card-board splints, and placed in a sling; the parents instructed to report in a few days, or earlier, should the child complain of pain. The case progressed favorably, and in due course of time the child regained full use of its arm.

HOSPITAL NOTES.

TREATMENT OF FRACTURES OF THE UPPER EXTREMITY IN THE HOSPITALS OF PHILADELPHIA.

(Reported by H. R. WHARTON, M.D.,
SURGEON TO THE CHILDREN'S HOSPITAL, PHILADELPHIA.)

THE treatment of fractures of the humerus, in the hospitals of Philadelphia, presents some variety in dressing depending principally upon the situation of the fracture.

Fractures of the shaft of the humerus are generally treated by first applying a roller bandage to the injured arm, from the tips of the fingers to the shoulder; a binder's board or leather splint is then softened in warm water and moulded to the rotundity of the shoulder; this should be long enough to extend down the arm to a short distance above the condyles, and should include about one-half of the circumference of the arm. An internal angular splint long enough to extend from the axilla to the tips of the fingers is padded with oakum or cotton and applied to the inner surface of the arm, and held in position by a bandage applied from the fingers to the shoulder, which includes the shoulder cap, and may be finished with some spica-of-the-shoulder turns.

To complete the dressing, a sling only is required, which should be so applied as to bring the point of support near the wrist, so that the weight of the tissues between the point of support of the sling and the fracture may exert some extending force.

This dressing is usually changed after twenty-four hours, and subsequent dressings are made less frequently; the dressing is usually dispensed with at the expiration of from four to six weeks, if union has progressed satisfactorily.

For fractures of the humerus high up, that is, at the anatomical neck, upper epiphysis, intracapsular, or of the tuberosities, this dressing is somewhat modified.

The arm is extended and the initial roller, and the binder's board or leather cap of the shoulder, are applied as previously described; a folded towel or a few thicknesses of patented lint are then placed against the chest and the arm is brought firmly to the side of the body, which acts as a splint. The arm is now secured in this position by turns of a bandage which encircle the chest, and extend from the elbow to the shoulder, and the forearm is carried in a sling as previously described.

In fractures about the upper third of the humerus, where the action of the deltoid muscle causes an outward tilting of the lower end of the upper fragment, some difficulty is experienced in maintaining the fragments in line; to correct this, Prof. Agnew recommends that, when the internal angular splint has been applied, the arm should be elevated to bring it to a right angle to the body, with a view of relaxing this muscle, the cap of the shoulder and bandage which secures the dressings to the arm should then be applied while the arm is in this position, and generally serve to prevent a recurrence of the deformity when the arm is dropped to the side and secured in the sling.

Dr. Levis, of the Pennsylvania Hospital, mentions a case in which this displacement was so marked and persistent that the arm was treated in this position for some time, until there was enough union between the fragments to prevent the recurrence of the deformity, when the arm was placed in the usual position.

Fractures of the condyles of the humerus are treated by replacing the fragments by manipulation as far as possible, then applying a roller bandage from the tips of the fingers to the shoulder, with a few figure-of-eight turns about the elbow to allow of flexion for the application of the splint; a well-padded anterior angular splint, extending from a short distance below the shoulder to the tips of the fingers, is next applied and held in position by a roller bandage, and the arm is carried in a sling.

Prof. Agnew, in addition to this dressing, recommends that a leather or binder's board cap extending a few inches above and below the joint be applied to the posterior surface of the elbow; he also in certain cases uses a Stromeyer's splint, so that the angle at which the arm is placed may be changed from day to day without disturbing the dressings, and in all cases insists on early passive motion to prevent stiffness of the joint.

Some surgeons in the treatment of this fracture use the internal angular splint, applied in the same manner as in the dressing for fractures of the shaft of the humerus.

The splint is permanently removed at the expiration of four weeks and the patient is encouraged to use the arm to overcome the rigidity, which, to a greater or lesser extent, generally follows these injuries.

Dr. Allis[1] treats these fractures with the arm in the extended position without a splint, and gives fixation to the fragments by means of strips of binder's board or leather, held in position by a bandage or strips of adhesive plaster, and claims that the resulting deformity and impairment of motion is less under this method of treatment.

Fracture of both radius and ulna, or, as it is generally described, fracture of both bones of the forearm, is treated by making extension from the hand to overcome the deformity; two well-padded splints, a little wider than the forearm, and long enough to extend from the tips of the fingers to the elbow, are then applied to the dorsal and palmar surface of the forearm, and held in place by a roller bandage.

In applying the anterior splint, care should be taken that it does not press against the brachial artery at the bend of the elbow when the arm is flexed, which has been followed by the most disastrous consequences.

Having applied the splints, the arm should be carried in a broad sling suspended from the neck; the forearm should be kept in a position between pronation and supination, that is, with the thumb looking upwards. This position offers the widest separation of the bones; and, in case of redundant callus, or inward displacement of one of the fragments, gives the patient the best chance of retaining perfect motions of pronation and supination. When there is a tendency to lateral displacement of one of the fragments, this can be corrected by the use of a compress.

This dressing is usually retained from four to five weeks. Prof. Ashhurst, in dressing this fracture, applies two splints, an anterior splint extending from the fingers to the bend of the elbow, and a posterior short splint extending from the elbow to the wrist, and prefers that the forearm be carried in the supine position, as advised by Lonsdale; this position he thinks most important when the fracture of the radius is in its upper portion, preventing union with axial deformity where the upper fragment may be supinated by the action of the biceps muscle.

Fracture of the olecranon process of the ulna is treated, first, by the application of the initial bandage from the fingers to the shoulder; and if there be displacement of the fragment by the triceps muscle, it is replaced and held in position by strips of adhesive plaster or by figure-of-eight turns of the bandage about the elbow. The arm is now placed upon a well-padded, anterior angular splint, with the angle so obtuse as to

[1] Proceedings of Phila. County Med. Soc., 1878-'79, p. 79.

hold the arm in a position of moderate extension, this position being found more comfortable for the patient than that of absolute extension. A straight splint with extra padding corresponding to the position of the bend of the elbow fulfils all the indications. Either of the above splints are applied and held in position by a bandage, and are permanently removed at the expiration of five weeks.

Fracture of the radius at its upper portion, or fracture of the ulna alone, are treated with the same dressings that are applied in fractures of both bones of the forearm. Fractures at the lower portion of the radius—those described as Barton's, Colles', or Smith's fractures of the radius—are generally treated upon the Bond splint, which consists of a piece of light wood, carved into somewhat the shape of the forearm, and on the lower portion of this a block is fastened in an oblique direction, over which the fingers rest, and this, from its oblique position, causes abduction of the hand when grasped by the fingers, and corrects the adduction so often seen in these fractures.

The deformity on the palmar and dorsal aspect of the wrist is corrected by extension and by the use of two compresses, one applied over the upper end of the lower fragment, and the other applied over the lower end of the upper fragment. The splint and compresses are then held in position by a roller bandage, and the forearm is carried in a sling, with the hand in a position between pronation and supination.

The splint, in addition to correcting the adduction of the hand, allows moderate motion of the fingers without disturbing the fragments; it is usually retained for four weeks, then laid aside, and motions at the wrist encouraged.

The pistol-shaped splints of Nélaton are also occasionally used.

Dr. Levis,[1] for the treatment of this fracture, has devised a splint of tinned copper, moulded to fit the forearm and hand, which is made either for the right or left hand, and when applied allows the hand to remain in a moderately flexed position, a compress is also used on the dorsal surface of the wrist; he insists upon a perfect reduction of the fragments before the application of the splint, as a most important factor in the production of a good result.

Fracture of the metacarpal bones are treated by the application of a short palmar splint, well padded to fill up the concavity of the palm of the hand, and if there be a projection of the fragments upwards it is remedied by the use of a compress; the compress and splint are then held in position by a roller bandage.

Fractures of the phalanges are treated by the use of a long, straight splint, extending from the tip of the injured finger to the wrist, and by two or three short splints applied to either side of the finger; the long splint may be applied either upon the palmar or dorsal aspect of the finger.

The splints may be held in position by a narrow bandage or by strips of adhesive plaster.

A binder's board splint moulded to the injured finger and held in position by a bandage, strips of adhesive plaster, or by a plaster-of-Paris bandage, is also sometimes employed in the treatment of these injuries.

[1] Surgery in the Pennsylvania Hospital, p. 269.

MEDICAL PROGRESS.

Atropine as a Cause of Glaucoma.—Atropine has of late years been so widely used in ophthalmic practice, both in the treatment of various painful affections, and also merely for the purpose of paralyzing the pupil to facilitate the estimation of errors of refraction, or an examination with the ophthalmoscope, that the warning afforded by Mr. Streatfield's letter, in the *British Medical Journal*, and to be found also in a case read to the Ophthalmological Society, by Mr. Snell, and reported in the same journal for July 15, has not been sounded too soon. It thus appears, on the evidence of competent judges, that a strong solution of atropine, such as is the officinal solution of the *British Pharmacopœia*, is capable of producing glaucoma in some cases. A way out of the difficulty is afforded by Mr. Streatfield, who points out that a solution very much weaker than that provided by the *Pharmacopœia* would suffice to produce sufficient mydriasis for all ordinary purposes. Dr. Ringer has, we believe, made some experiments on this subject, and has found that a dilatation of the pupil, lasting some hours, can be produced by a solution containing what a chemist would consider a mere trace of atropine. A solution formed by diluting the pharmacopœial "liquor" with two or three hundred times its bulk of water, would be sufficiently strong.—*British Medical Journal*, July 29, 1882.

Subcutaneous Injection of Iodoform in Syphilis.—Dr. Thomann has treated a number of cases of syphilis by subcutaneous injections of iodoform; after ten or twelve injections he has always observed a great improvement of the symptoms. The preparation is composed of six parts of iodoform in twenty of glycerine, and he injects progressively thirty to seventy-five centigrammes. He has never had an abscess to occur; the iodine is to be found in the urine in about two hours; no trace of the odor of iodoform occurs in the breath, in the sweat, or urine. He also made use of a solution of iodoform in olive oil, but found it much more irritating.—*Bull. Gén. de Ther.*, July 15, 1882.

The Treatment of Hæmorrhoids by Injections of Carbolic Acid.—Dr. Charles B. Kelsey, Surgeon to St. Paul's Infirmary for Diseases of the Rectum, New York, recently opened a discussion on the treatment of hæmorrhoids, at a meeting of the New York Clinical Society, by reading a paper on the treatment by injections of carbolic acid. The paper, which appears in the August number of the *New York Medical Journal and Obstetrical Review*, opens with condensed histories of a number of cases, after which he remarks that, beginning this plan of treatment without very much confidence in it, and with the fear of causing great pain, and, perhaps, dangerous sloughing, constantly before him, the method is constantly growing in favor with him, and the more he practises it the more confidence he gains in it. With solutions of proper strength the danger of causing sloughing of the tumors is very slight. There are no objections to this method which do not apply equally to others. He has once seen considerable ulceration result from it in the hands of another; but he has seen an equal amount follow the application of the ligature; and he does not consider this as a danger greatly to be feared when injections of proper strength are introduced in the proper way. It is applicable to all cases; is especially adapted to bad cases; and may be used where a cutting operation is inadmissible. It acts by setting up an amount of irritation within the tumor which results in an increase of connective tissue, a closure of the vascular loops, and a consequent hardening and decrease in the size of the hæmorrhoid. Except when sloughing occurs, the tumors are not, therefore, removed, but are rendered inert, so that they no longer either bleed or come down outside of the body. In cases in which the sphincter has become weakened by distention, the injections will also have a decided effect in contracting the anal orifice, as injections of ergot or strychnia do in cases of prolapsus. He has used this method of

treatment now many times, and has never, except in one case, had reason to regret using it or to be dissatisfied with its results, so far as he has been able to follow them. Although slow to advocate any one treatment of this affection to the exclusion of all others, he now generally adopts this from the outset in each case, reserving Allingham's operation for any in which the injections may fail. As yet he has met with no such case. Its advantages over all other methods, provided its results prove equally satisfactory, are manifest. The patient is not terrified at the outset by the prospect of a surgical operation, is not confined to his bed, and is not subjected to any suffering. The cure goes on painlessly, and almost without his consciousness. The method requires some practice and some skill in manipulation, in getting a good view of the point to be injected, and in making the injection properly; but this is soon acquired; and he is more and more convinced that the fear of producing ulceration is an exaggerated one, and that when ulceration is produced it is a result either of a solution of too great strength, or of one improperly administered.

Ovariotomy in Switzerland.—In a recent number of the *Revue Médicale de la Suisse Romande*, Prof. Socin, of Bâle, makes some observations with regard to the statistics of his cases of ovariotomy, as recorded in a paper on the subject in a recent No. of the *Brit. Med. Journ.*, and in the above-mentioned Swiss journal, April 15, where Prof. Kocher reproduced the substance of the latter article. In both contributions, Prof. Socin's operations were placed under "cases of ovariotomy by surgeons who have operated under carbolic spray in every case," but in the English article, 12 operations, with 4 deaths, were placed against the name of Prof. Socin, whilst Prof. Kocher gives 11 cases, with 4 deaths, in his tables. Prof. Socin now states that there are two errors in the articles on ovariotomy in Switzerland, which he desires to rectify. "The first is through an omission on my own part, for I failed to record two successful cases; this raises my total to 13, out of which 4 were fatal. In the second place, it is not correct to include all my operations amongst those conducted with antiseptic precautions. My first ovariotomy was performed on February 21, 1867, my second on July 20, 1869, when antiseptics were not in vogue. The next two cases come under the same category. Consequently, my first four cases, which include two deaths, one from collapse on the day of the operation, the other from septic peritonitis on the seventh day, cannot be taken into account in the consideration of antiseptic surgery." One death from shock half an hour after operation, and one from suppurative peritonitis which had existed before the operation, occurred among Prof. Socin's antiseptic cases. In the same series was a successful case of removal of a cystic ovary, in a patient who returned to hospital, two years later, with a large uterine fibro-myoma. He also successfully performed "supravaginal hysterotomy and the extirpation of the second ovary, which was healthy." —*British Medical Journal*, July 29, 1882.

Cure of Hydrophobia.—At the meeting of the Académie de Médecine, held on July 11th, M. Decroix read a paper entitled *Nine Cases of Cure of Hydrophobia*, of which the following are the conclusions:

1. It has been demonstrated that hydrophobia can be cured spontaneously.

2. It has never been proved that the cures in cases which recovered were due to the influence of drugs, and did not occur spontaneously.

3. All the methods recommended by the Committee of 1874 comprised the injection of nitrate of pilocarpine, and have rather hastened than retarded death.

4. Blunting the teeth of dogs is the best preventive of the propagation of the disease.

5. Persons and dogs suffering from hydrophobia should be left in perfect repose.—*Gaz. Méd. de Paris*, July 15, 1882.

Introduction of Aliments and Medicines Through the Nose.—Fernet and Martel (*Schmidt's Jahrb.*, 1882, 1.) have made a number of experiments to demonstrate the possibility of introducing ailments and medicines through the nostrils.

For this purpose the patient is placed on his back, in the recumbent position, while the head and the upper part of the throat are permitted to fall somewhat backward. The gum hose of a common nursing bottle is then pushed into the posterior part of one nostril, and the fluid—either containing nutritive substances or medicine—slowly poured in. In consequence of the peculiar position of the body, the floor of the nasal cavity and the velum form an oblique plane, so that the fluid mentioned flows directly into the pharynx and induces swallowing. Generally, and especially if the fluid is poured in slowly, the expected result ensues with certainity, and in a manner by no means disagreeable to the patient; only when the fluid is poured in too rapidly, a few drops may find their way into the larynx, causing the well-known irritating cough.

Fernet and Martel have employed this method successfully in persons in a comatose condition, in children suffering from tubercular meningitis, and even in newborn infants too weak to take the breast or the bottle. This method may also be successful in introducing such medicines into the stomach which, in consequence of their bitter or nauseous taste, are rejected by the patient.

Créquy recommends, for this purpose, the introduction of a flexible gum tube (catheter). If this is pushed behind the velum, the possible reflow of the fluid, by the other nostril would effectually be prevented.

Martel reports two cases: one, where, in consequence of a fall on the head, severe concussion of the brain, with trismus and utter inability to swallow, set in, and the other, a case of pneumonia in a drunkard, the patient being totally unconscious. Here the medicines—calomel and jalap in the first, musk and digitalis, in the second, case—were successfully carried into the system by the method described, and though in consequence of their severity the cases ended fatally, the procedure itself achieved its object.—*Medical and Surgical Reporter*, August 5, 1882.

Tubercular Osteo-arthritis.—At the meeting of the Société de Chirurgie, held June 28th, M. Lannelongue drew the following practical conclusions from a study of this subject:

Tubercular osteo-arthritis may occur in two different forms depending upon its phase of development. In the latent stage, when the synovial membrane is scarcely affected, any intervention is uncalled for, immobilization and extension with good hygiene being sufficient. When synovitis occurs, ignipuncture or interstitial injection will give the best results. Should an abscess occur, it should be opened, and the diseased bone sought for and removed.—*Bull. Gén. de Ther.*, July 15, 1882.

Use of Iodoform in the Buccal Cavity.—The effects of iodoform in tubercular joint affections, as well as the certain and reactionless course which non-sutured wounds of the surface or of cavities run under the application of this drug, suggested the advisability of testing its value in wounds of the natural openings of the human body; and the more so on account of the difficulty which has hitherto been experienced in carry-

ing out antiseptic treatment in those regions. Numerous operations in the buccal cavity, lately performed in Prof. Billroth's clinic, have afforded us a certain amount of experience in this direction. From April to October, 1881, eighteen lingual carcinomata were extirpated. In some of the cases a third or a half of the organ, but in the majority the whole tongue, was amputated. Simultaneously more or less of the floor of the mouth had to be removed, the excavation sometimes extending to the hyoid bone and digastric tendon, and including the submaxillary and adjacent cancerous lymphatic glands. Besides, in several instances the inferior maxilla was partially resected, or portions of the soft palate and pharynx were excised. Ligatures were, as a rule, applied beforehand to the lingual and external maxillary arteries. In all these eighteen cases a cure was the result. There was no reaction in any of the wounds, and in most of the cases there was no rise of temperature observable after the operation. There was an absence of those complications which were formerly observed after extirpation of the tongue. There can scarcely be a doubt that these favorable results stand in direct relation with the employment of iodoform, for the *technique* of the operation has undergone no alteration. The points to be kept in mind in this method of wound-treatment, as reported by Wolfler, *Centralb. f. Chir.*, are the following: When, after extirpation of the tongue and floor of the mouth, the wound made in ligaturing the arteries before mentioned communicates with that in the buccal cavity, the latter is drained by means of a tube of the thickness of a finger. If no such intercommunication exists, it is not purposely set up. In all cases the edges of the ligature-incision are brought together with sutures. After the operation, and in size corresponding to the depth and width of the wound, a strip (four-ply) of iodoform gauze, six to eight inches long and one and a half to two inches wide, is introduced into the mouth, and pressed with moderate firmness against the sides of the cavity, which it quite fills up. This small quantity of gauze suffices to keep the wound completely and lastingly aseptic. The first dressing usually remains adherent to the surfaces of the wound for from five to eight days. It does not separate of itself during these first days, and even then need not be changed if the patient is taking fluid nourishment. It must be especially noticed, however, that ordinary gauze does not adhere so certainly as that prepared in the following manner: 60 grammes of colophony are dissolved in 1200 grammes of alcohol, and 50 grammes of glycerine are added to the mixture. In this six metres of purified gauze are soaked, then wrung out, and dusted with 50 grammes of pulverized iodoform. If we compare these recent results with our former experiences after extirpation of the tongue, we must feel convinced that in iodoform we have found an agent for treating wounds of the buccal cavity, the mode of application of which is as simple as its antiseptic qualities are trustworthy.—*Edinburgh Medical Journal*, July, 1882.

Amyloid Kidney Without Albuminuria.—J. Strauss (*L'Union Médicale*) concludes a paper on amyloid kidney without albuminuria as follows:

1. In certain cases of amyloid degeneration of the kidneys, albuminuria may be constantly absent until death.

2. The absence of albuminuria is due on the one hand to the absence of a deep lesion (interstitial or epithelial) of the kidney, and on the other hand to a special localization of the amyloid degeneration. This, in such cases, bears chiefly upon the *vasa recta* of the medullary substance and implicates in a minor degree the glomerular vessels.

3. From a clinical point of view, if in a phthisic, or an inveterate syphilitic, or a subject of chronic osseous suppuration, etc., we find enlargement of the spleen and of the liver, but *without albuminuria*, we are not justified on this account in rejecting the idea of amyloid degeneration of the viscera, nor even in absolutely denying amyloid degeneration of the kidneys.

4. Those authors who date the beginning of amyloid degeneration in the economy from the moment at which they observe the presence of albumen in the urine, commit a double error, (*a*) because amyloid degeneration is far from beginning always by invading the kidneys. On the contrary, the spleen and the liver are habitually the first to be attacked, (*b*) because the kidney itself may be suffering from amyloid degeneration without albuminuria being present. It is then necessary to mistrust calculations by which it has been sought to fix the possible duration of life in subjects afflicted with amyloid cachexy, by making this date from the first appearance of albuminuria.—*Canadian Journal of Medical Science*, August, 1882.

Fissure of the Neck of the Bladder.—M. Reginald Harrison thinks that fissures commencing in the prostatic urethra, and involving the vesical orifice, are frequently causes of irritable bladder. The symptoms of fissure of the vesical orifice are analogous to those observed elsewhere. There is pain on micturition, and a sensation of contraction and dilatation at the close of the act, accompanied with a sharp stinging pain behind the scrotum which is very significant. Occasionally a few drops of blood escape as micturition terminates. The pain varies in degree in the same patient, being intense when the urine is highly acid and less so when it is neutral or alkaline. Examination of the prostate by the rectum invariably produces on pressure a sharp sensation as if a knife were piercing the gland. Similarly, the passing of a sound in the bladder is distressing. Occasionally these cases are referred to some gouty or rheumatic disorder; by the French the term *contracture du col vésical* often includes them. When this affection is considered to be traceable to either gout or rheumatism, the patient is almost invariably placed on an alkaline treatment with decided advantage, for the reason already mentioned. The improvement is, however, only temporary, and is directly traceable to the altered reaction of the urine. Vesical fissure is, however, seldom cured, though it may be palliated by such means; in addition rest and the application of a weak solution of nitrate of silver directly to the prostatic urethra are sometimes effectual.

On more than one occasion Mr. Harrison has succeeded in effecting permanent benefit by temporarily paralyzing the sphincter action of the neck of the bladder. The relief that immediately follows cystotomy in vesical fissure, otherwise irremediable, justifies the risk of a proceeding which is considerably less than that attending many other operations more frequently and less hesitatingly performed.—*Liverpool Med. Chir. Journ.*, July, 1882.

Double Uterus and Vagina.—Dr. Heywood Smith exhibited on July 27, in the theatre of the Hospital for Women, a case of rare occurrence with complete double uterus and vagina. The right vagina was rather the larger, the orifice of the left being rather hidden in the folds that the edge of the septum formed. Both vaginæ were perfect; the cervices were distinct, with small ora. Both were shown simultaneously by two specula. The sound passed upwards and rather outwards on the right side, two and a half inches, and on the left similarly to two and a quarter inches. *Per rectum*, it was found that the double uterus was united and flattened as far as the body, and the two fundi were separate and diverged, so that the whole organ

presented somewhat the shape of a Y. Menstruation was regular, somewhat scanty, with pain in both inguinal regions. Dr. Heywood Smith had seen a similar case in a young girl some years previously. Dr. Rogers, who was present, said he had seen five cases. It would be interesting if observers would report all cases of complete double uterus and vagina. This patient has been married eight years, but has never been pregnant.—*British Medical Journal*, July 29, 1882.

TREATMENT OF GENU VALGUM.—M. ROBIN (*Lyon Méd.*) has devised a new osteoclast for the radical cure of genu valgum. It consists of an iron case extending half way around the thigh on its anterior aspect, from a point a short distance above the condyles of the femur upward to the superior third of the thigh; two steel collars bind this to a piece of heavy plank, one at its lower, the other at its upper, limit: each collar is fastened to the plank by a nut and screw. This portion of the apparatus holds the femur secure. To the upper or superior portion of the lower collar an upright is securely fastened, having a slot at its upper end, at right angles to the collar and parallel to the long axis of the limb. Into this slot is fitted the end of a long lever, which extends down over the leg. A strong leather collar, large enough to surround the femur at the condyles and pass over the lever above, completes the apparatus. It will be evident that the lever will act, when pulled upward, as one of the second order, where the weight is between the fulcrum and the power. The object aimed at in the use of this osteoclast is to cause a transverse fracture, either complete or incomplete, just above the epiphyseal line of the femur in the direction from behind forward, or rather from within outward and upward. The following is the method of using it: The patient being etherized, the thigh is placed on the wooden frame, the iron splint or case is placed over the thigh and securely fastened to it by the steel collars; the leather band is placed around the lower end of the thigh, so as to grasp the condyles, and then over the lever. Just before applying the power the limb is rotated outward, and the force is applied by forcing the lever upward. The vessels and nerves, being protected by the condyles, escape any pressure. It is found that the femur is fractured just above the condyles, and that correction of the deformity can be readily made.—*New York Medical Journal*, August, 1882.

THE RADICAL CURE OF VARICOCELE.—M. REGINALD HARRISON describes his method of operation as follows: It consists in exposing the cord by a vertical incision about an inch in length and separting the veins which are most prominently varicose. These are each tied in two places with a catgut ligature. Usually three or four main veins require to be so dealt with. In addition, it will be observed that there are a number of small veins in plexuses or bundles, especially in close proximity with the epididymis, which cannot be obliterated in this way; these he destroys with a few light touches of the thermo-cautery, taking care, while this is being done, to protect the vas deferens by holding it from behind, between the thumb and index finger of the left hand. The operation is conducted antiseptically. No sutures are introduced, and the wound is left to heal by granulation. He has now been performing this operation for some years, and he is not aware of an instance in which there has been a return of the varicose condition of the veins; the cicatrix which results is of a contractile nature, such as usually follows wounds inflicted by burning, and gives a feeling of firmness to parts which previously were complained of as being unnaturally lax. It is a matter of great importance, in view of preventing a return of the disease, to destroy the small varicose veins, which can only be seen and not felt. If this is not done, obliteration only means driving the disease into new channels, already preparing to dilate.

He has operated on the spermatic veins in this way a great many times. In one instance only was any delay or danger imported into the case. This was an attack of erysipelas, which was directly traceable to the patient sitting on a draughty watercloset very shortly after the operation was performed. Though here there was delay and some danger, the result was satisfactory. As to the necessity for performing an operation with a view of effecting a radical cure, the sensations of patients, in addition to changes taking place in the testicle, are sufficient to indicate this. Hence, in deciding what is to be done, it is of importance to have under notice the various procedures having for their object the same result.—*Lancet*, March 25, 1882.

HYPODERMIC INJECTIONS OF PILOCARPINE IN SCARLATINOUS URÆMIA.—PROF. SEMMOLA has made a very important observation by which he clearly establishes the influence of pilocarpine in scarlatinous uræmia. The details of this case, which emphasize the relations too often forgotten between the skin and kidneys, will be read with interest.—*Bull. Gén. de Ther.*, July 15, 1882.

A CASE OF TRIPLETS.—Triplets occur in France but once in 8256 labors. The case reported by HERGOTT (*Ann. de Gynécol.*, June, 1882) is the only one that has occurred in the last ten years in the maternity at Nancy. It is as follows: S., aged twenty-four, nullipara, entered hospital in labor five hours. Membranes had ruptured, cervix was obliterated, os dilated one inch, auscultation reveals two fœtal hearts, one above umbilicus and to the right, the other below; on the left nothing is heard. Palpation is difficult, but one head is determined above on the right, a second is engaged. In two hours a female is born, followed shortly by a male. A third fœtus is then discovered, presenting by the breech. Is soon born, and is a male. One female and two males is usual, but, usually, the presentation for all is vertex. The placenta was double, united by a membranous band. Each fœtus had separate cords, but those of the males united and were inserted into the same placenta. Each fœtus was inclosed in separate membranes. On the third day the last child born died; the following day the second male; fifteen days after, the female. The mother recovered.—*Amer. Journ. of Obstetrics*, August, 1882.

HEART TUBERCLE.—HIRSCHSPRUNG (*Jahrb. für Kinderh.*, xviii., 2 and 3) reports an interesting case of a girl eight years old, who was a healthy looking child, but on admission to the hospital had serious symptoms pointing to the cardiac region, and represented by a tumultuous action of the heart, diffuse pulsation, increased cardiac dulness, slight cough, heightened temperature, and increased respiration. Dyspnœa and cyanosis set in, and the child died seven days after entering the hospital. A tubercle as large as a walnut was found in the internal wall of the left ventricle; a few miliary tubercles in the anterior part of the left upper lobe, and nowhere else in the lung; the bronchial glands, especially on the left side, were found in a state of cheesy degeneration, as were also the mesenteric glands; there were tubercles in the spleen and pericardium. The liver and spleen were enlarged, and the intestinal glands swollen but not ulcerated,—*Boston Medical and Surgical Journal*, August 3, 1882.

RESECTION OF THE PYLORUS.—MR. SOUTHAM says that, if called upon to perform this operation again, he should be disposed to introduce one or more drainage-

tubes into the abdominal cavity through the external wound, or through a counter-opening made in the loin, and attempt to draw off from time to time, by means of a syringe, any inflammatory effusion which might collect there, according to the plan sometimes adopted in cases of ovariotomy. As regards the operation itself, which has not hitherto been adopted in this country, it has now been performed on fifteen occasions by Billroth, Wölfler, and others with considerable success, five recoveries having taken place, and one patient was recently described as being alive and in good health—the digestive functions being in no way impaired—eight months after its performance.

It is, he thinks, therefore well worthy of further trial; but in order that it may be successful, it should only be performed in the early stage of the disease, when the pylorus alone is involved, and where the general condition of the patient is such, that he will be able to bear the severe shock which is necessarily attendant upon so serious an operation.—*Brit. Med. Journ.*, July 29, 1882.

Employment of Oxygenated Water as an Antiseptic in Surgery.—MM. Péan and Baldy have made use of oxygenated water as an antiseptic application to wounds, and think that their results will compare favorably with cases in which alcohol, either simple or camphorated, or carbolic acid, has been used. Oxygenated water has the further advantage of possessing no odor and no toxic properties.—*Gaz. Hebdomadaire*, July 14, 1882.

The Treatment of Fresh Wounds.—Dr. John Duncan draws the following deductions from his observations:

1. That when we succeed in preventing sepsis at the operation we can by this method rely on singularly simple and favorable progress, with total absence of fever, with freedom from pain, and with great rapidity of healing. It is proper to be exceedingly careful in the arrestment of hemorrhage; but even did a little reactionary oozing occur, it is only necessary to renew the dressing once, or, as he did in some of these cases, to put on an additional layer of wool.

2. That should sepsis lead to inflammatory action, it is necessary temporarily to abandon the dressing.

3. That even in septic cases it is often advantageous to continue it throughout if there be no inflammation, or recur to it when inflammation has subsided, because it is a good excipient for discharge, because it tends to diminish the amount of pus, and because it aids in keeping the part at rest.

4. That in fresh wounds so situated that they can be firmly and equably compressed the introduction of materials to secure drainage is usually unnecessary, and that if the drainage-tubes be introduced they should be removed in twenty-four hours.

5. That sepsis is less apt to occur by this method, as it avoids the risks which attend changes of dressing and movements of drainage-tubes, which, in my experience, are more fruitful sources of failure than even the original operation.—*Edinburgh Medical Journal*, July, 1882.

Dysmenorrhœa relieved by Removal of a Hyperæsthetic Hymen.—At a recent meeting of the New York Obstetrical Society Dr. Robert Watts reported the case of a patient, nineteen years of age, who said she commenced to menstruate at the age of twelve. The periods were regular, but were accompanied by a great deal of pain—a feeling of fulness and bearing down in the pelvis, and pain in the back. There was also headache, described by her as sick headache. There was disturbance of the stomach These symptoms lasted several days; the flow continued from seven to nine days. It was slow, and sometimes was in the form of clots. This condition had existed ever since she commenced to menstruate. About two years ago she consulted a physician in Chicago, who made an examination, and told her that she was malformed, and was "not a natural woman." This distressed her very much, and she continued to suffer in the same way until Dr. Watts saw her. On attempting to make a vaginal examination, he found the parts exquisitely sensitive, and was unable to introduce the finger. This he supposed was due to the existence of vaginismus, but more careful inspection revealed a very close hymen, which was somewhat elastic, and could be pushed up before the finger a certain distance, although it caused exquisite pain. In its centre was an opening large enough to admit an ordinary uterine probe. Owing to the condition of the parts, no examination could be made until after the hymen had been cut. Nothing abnormal could be discovered about the uterus. Ten days later she menstruated without any pain, without any headache, or any of the uncomfortable symptoms of which she had previously complained, and she had since remained perfectly well. She had been taking singing lessons, but her voice had become so weak that her teacher had rather advised her to discontinue them; since the operation, however, he had spoken to her of the great improvement which had taken place in her voice. Whether this change in the voice was due to the general improvement of the health, or to the removal of this source of irritation, Dr. Watts was unable to say. He had never seen a similar case.—*New York Medical Journal*, August, 1882.

Ligature of the External Carotid.—At the recent meeting of the Société de Chirurgie, on June 27, in reference to the point of election in ligation of the external carotid, M. Faraboeuf said that the principal objection urged to the situation between the origins of the superior thyroid and lingual arteries was the difficulty in finding the vessel. M. Faraboeuf, however, showed that the artery lies directly under the greater horn of the thyroid bone, and by cutting down on this point the point of election was readily found.—*Gaz. Méd. de Paris*, July 15, 1882.

Intra-uterine Vaccination.—Dr. Behm has made a number of experiments as to whether vaccination of the mother in the last few weeks of pregnancy renders the child after birth insusceptible to the vaccine virus, and his results show that while, like variola, vaccinia may be transferred from the mother to the unborn child, this result occurs very seldom.—*Berliner klin. Woch.*, July 17, 1882.

Antiseptic Treatment of Pulmonary Consumption.—Dr. J. Burney Geo describes a simple and convenient form of respirator for the treatment of consumption by antiseptic inhalation, and mentions a number of drugs with which he has had experience.

Of all these, he prefers creasote; but he also frequently uses carbolic acid and eucalyptol, with which he sometimes mixes a little camphor. Turpentine is a useful addition as an astringent, where there is profuse secretion or a tendency to hemorrhage. Camphor has been said to be a very powerful antiseptic, but it has the objection of diffusing itself very rapidly, and is unpleasantly pungent and penetrating. He has also found it a very convenient plan to mix these substances, such as creasote, carbolic acid, eucalyptol, or turpentine, with equal parts of spirits of chloroform. It helps to diffuse and vaporize these substances, and it is itself somewhat of an antiseptic; and it has also a soothing

effect on the often irritable bronchial mucous membrane. He has often seen a patient tormented with cough at night, so much so as to be unable to get any sound sleep, obtain perfect relief from this distressing symptom by using at bedtime one of these inhalations in an instrument of this kind. The quantity required for this purpose is often quite inconsiderable; it is rarely necessary to use more than twenty minims of a mixture of equal parts of creasote and spirits of chloroform dropped on the sponge at a time, and renewed occasionally as it becomes exhausted; and it is often desirable to begin with very small quantities, until the patient gets used to the vapor. Five drops of the mixture may be dropped on the sponge at a time, and gradually increased to fifteen or twenty. One of the advantages of the little inhaler he describes is that, being perforated all over, the access of air is unimpeded, while the vapor diffuses itself freely into the immediately surrounding atmosphere. With more solid inhalers, patients will often say they feel "stifled," and refuse to use them.

The substances named are, he believes, the best for continuous, or almost continuous, inhalation; for occasional inhalation, a weak iodized vapor will often be found very useful, and even a very dilute chlorine vapor is well borne by some patients.

Iodine vapor may be diffused through a room or small chamber by throwing fragments of iodine on a heated plate, as he now does; or it may be inhaled from the surface of hot water, by pouring a few drops of tincture of iodine on the top of hot water contained in a suitable vessel, and holding the mouth and nose over the vapor, with some light covering over the mouth and nose and vessel. The vapor of tar may be inhaled in the same manner. A sleeping apartment may be impregnated with tar vapor by putting some tar on a heated metal plate, or stirring a vessel containing tar with a piece of heated metal of any kind. Other antiseptic substances which are not volatile or are vaporized with difficulty may be inhaled in solution in the form of spray. A Siegle's spray-producer is the instrument usually employed for this purpose.—*British Medical Journal*, July 11, 1882.

SALICYLATE OF SODA.—PINSKER (*Archiv f. Kinder.*, ii., No. 12) concludes from a large number of observations on the use of this drug in children, that its ill effects, such as loss of appetite, nausea, vomiting, ringing in the ears, giddiness, deafness, at times appearances of collapse, albuminuria, erythema, and urticaria, are oftenest seen when the drug is impure. While finding it almost a specific in acute rheumatism, it exerted very little effect on diphtheria, pertussis, and typhoid, and was useless in intermittent fever.—*Boston Medical and Surgical Journal*, August 3, 1882.

EXAMINATION OF SPERMATIC STAINS. — VOGEL (*Wiener Med. Blätt.*, 1882) recommends the following method: The stain is softened with water, and in the moist condition is taken off with a knife, avoiding as much as possible the removal of any of the tissue on which it lies. A few small hairs are unimportant, however, as they are readily dissolved from the scrapings on the object-glass or slide with a drop of concentrated sulphuric acid. After two minutes one or two drops of tincture of iodine are added, the whole stirred carefully with a glass rod, and covered with a large cover-glass, which, if the dark-brown mass be too opaque, may be pressed down a little, unless it be intended to transfer smaller portions to other slides. The spermatozoa are stained distinctly brown, and are visible under the microscope in their whole contour, but it is not possible to keep the staining in longer than twenty-four hours unless the sulphuric acid be washed out, when the preparation is soon spoiled. Alcohol at once decolorizes the spermatozoa, showing the staining to be only superficial. — *Boston Medical and Surgical Journal*, August 10, 1882.

THE POISONOUS CONSTITUENTS OF TOBACCO-SMOKE. —A series of experiments has been recently conducted by Herr Kissling, of Bremen, with the view of ascertaining the proportions of nicotine and other poisonous substances in the smoke of cigars. His paper, in *Dinglers' Polytechnisches Journal*, gives a useful *résumé* of the work of previous observers. He specifies, as strongly poisonous constituents, carbonic oxide, sulphuretted hydrogen, prussic acid, picoline-bases, and nicotine. The first three occur, however, in such small proportion, and their volatility is so great, that their share in the action of tobacco-smoke on the system may be neglected. The picoline-bases, too, are present in comparatively small quantity; so that the poisonous character of the smoke may be almost exclusively attributed to the large proportion of nicotine present. Only a small part of the nicotine in a cigar is destroyed by the process of smoking, and a relatively large portion passes off with the smoke. The proportion of nicotine in the smoke depends, of course, essentially on the kind of tobacco; but the relative amount of nicotine which passes from a cigar into smoke depends chiefly on how far the cigar has been smoked, as the nicotine contents of the unsmoked part of a cigar is in inverse ratio to the size of this part—*i. e.*, more nicotine the shorter the part. Evidently, in a burning cigar, the slowly-advancing zone of glow drives before it the distillable matters, so that in the yet unburnt portion a constant accumulation of these takes place. It would appear that in the case of cigars that are poor in nicotine, more of this substance relatively passes into smoke than in the case of cigars with much nicotine; also that nicotine, notwithstanding its high boiling point, has remarkable volatility.—*Scientific American*, August 12, 1882.

THE ANTIPYRETIC ACTION OF ALCOHOL.—The conclusions drawn by DR. GREBE, from his experiments upon the antipyretic action of alcohol (*Arch. f. wiss. u. pract. Thierh.*) are as follows:

1st. The action of alcohol upon the temperature varies, according as it is given in small or large doses.

2d. In small and moderate doses alcohol, when given to animals with fever, produces an immediate slight increase in the bodily temperature, amounting to about 1° F.

3d. This increase is of short duration, and is followed by a fall of temperature to a lower level than before the alcohol was taken.

4th. In large, but not poisonous doses, alcohol depresses the temperature without any previous rise. The fall may amount to several degrees.

5th. A long-continued fall of temperature can only be obtained by giving large doses at regular intervals. Given in this manner, alcohol is a true antipyretic.

6th. Alcohol has its antipyretic effect by virtue of its power to hinder or lessen oxidation. The author states that in fever the red blood-corpuscles are diminished in number, but that by giving alcohol in antipyretic doses they reach their normal amount again. This assertion, first made by Manassein, was confirmed by Grebe.

The various theories offered to explain the heat-depressing powers of alcohol are discussed by our author. He is inclined to give the most weight to the power which alcohol has of delaying tissue-changes. Grebe's conclusions are in harmony with those of most of the other very numerous investigators in this line.—*Medical Record*, August 5, 1882.

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EXTIRPATION OF THE LARYNX.

NINE years ago, when Billroth, one of the most daring and brilliant of modern surgeons, announced the first extirpation of the entire larynx, we all opened our eyes and asked ourselves what next? A query he answered later by an exsection of the pylorus. The latter operation is too recent to invite determinate and especially statistical criticism. But the former operation has now been done so often that we may properly pass its cases in review, and ask ourselves what cases are suitable for it, what is the best method of doing it, and finally whether the results justify the operation.

Dr. Blum, in the *Archives Générales*, for July, 1882, has collected in a convenient brief *résumé* all the cases reported up to date, thus completing Foulis' table presented to the International Medical Congress last year. They number thirty-eight. Among them we find but one case operated on in America, and only six in England. Over twenty have been done by German surgeons, Billroth and Thiersch having each done four operations, and Czerny three. To the latter surgeon also is due the credit of the first tentative steps in the direction of the operation, for in 1870 he demonstrated its possibility on the lower animals, and even designed a canula to replace the larynx and allow of voice. Gussenbauer, however, has produced so far the best artificial larynx—a double canula, the inner one turning upwards and bearing a vibrating reed. Bruns and Czerny have modified it to advantage.

Watson, of Edinburgh, seems really to have extirpated the larynx in man in 1866, but the details of the procedure are not very explicit, and did not establish the operation as did Billroth's case seven years later.

The cases so far have been twenty of carcinoma, ten of epithelioma, six of sarcoma, one of perichondritis, and in one case the nature of the disease is not stated. Practically, therefore, the operation has been, and doubtless always will be, chiefly limited to cases of cancer and its allies; and by no means every case of these fatal diseases will be suitable for operation. So long as the disease is strictly limited to the larynx it may be amenable to operation; but once that it has invaded surrounding tissues, infiltrating them to such an extent that its limitations are uncertain, and its involvement of vessels, nerves, and other important tissues is extensive, the operation clearly would pass out of the realm of the justifiable.

Czerny has just reported in full his three cases in the *Berliner klinische Wochenschrift*. In one of them he operated five times for recurrence of the disease in less than six months, removing not only the diseased structures, but ligating and excising both jugular veins, one carotid artery and one pneumogastric nerve, and Landerer in another case had to excise one phrenic nerve.

The method is now fairly well defined, although it is still possible that improvements will be proposed in its various steps. From the very nature of the diseases requiring it, previous tracheotomy is an almost invariable antecedent condition. Any disease so serious as to demand extirpation of the larynx will almost certainly have produced such a dyspnœa as already to have required tracheotomy. Such was the fact in all these thirty-eight cases, with two exceptions. It is also a favorable condition, since the patient is then accustomed to the use of the canula, and the adhesions of the trachea prevent its ready displacement after the removal of the larynx.

During the operation, and for some eight or ten days after it, a tracheal obturator is required in order to allow the use of an anæsthetic, to keep the blood from choking the patient, and to prevent the detritus and pus from passing into the bronchi. That of Trendelenburg is the best and simplest. It is an ordinary canula surrounded by a short cylinder of rubber tied above and below. When inflated, this cylinder distends and completely fills the trachea, yet great care is required in its use, since its pressure often produces local ulceration and gangrene. After reaching the cartilage we may proceed in two ways, either with Foulis, separating the trachea and the larynx horizontally, and dissecting from below upwards; or with Pick, and most other surgeons, we may divide the thyroid vertically and remove each half separately—the simpler and safer operation. The arteries usually requiring ligature

are the crico-thyroid, the superior thyroid, and the superior and inferior laryngeal. The hemorrhage is not generally alarming, for none of the arteries are very large, and most of them may be tied before being cut, yet Czerny required twenty-seven ligatures in one of his cases. Of course, primary union is not sought for. An œsophageal tube or a large Nélaton catheter is introduced by the wound into the stomach, and left there till granulation is well established, when it may be removed and swallowing by the mouth may be tried. It is surprising in how short a time the unfortunate sufferers can use the œsophagus for this purpose. The artificial larynx may be inserted about the same time—Maurer says not earlier than the fourteenth day. In order that the epiglottis may not interfere with any such artificial larynx, experience shows that its removal during the operation is advisable, and that the tongue generally replaces it as a fender to the trachea; yet it has several times been left with good results, and Landerer advises its preservation.

What now are the results? Out of the thirty-eight cases, eighteen died within a week, and at a later period twelve more, either from the operation or an early return of the disease; only eight were alive at the time of the report, four cases of epithelioma, and two each of carcinoma and sarcoma. But in one of these cases the disease had already returned, and all the others were reported at so brief an interval after the operation as to make the ultimate results very equivocal. Bottini's case had lived without recurrence six years, Caselli's for nearly two years; none of the others for more than a year, and generally much less.

In view of these facts we may well question whether American surgeons have not done well in refusing thus far to do the operation, and in deterring others from doing it, as the sole American case certainly has. If but two or three out of thirty-eight survive for two or three years, and all the rest die, and, as a rule, much more speedily than they would if let alone, is there on the whole a gain of life or even of comfort? Are not the suffering after the operation, the mutilation, the loss of voice, the annoyance of the artificial larynx, of the œsophageal tube, and later of the troubles in swallowing, with the risk to life, and the almost absolute certainty of return with its dreadful discomforts, all taken together, well nigh prohibitory?

Cases of sarcoma seem to be best adapted to the operation, for only (mark the word) two-thirds of these cases have died. But who, as Semon says, "will take upon himself to diagnosticate early and positively carcinoma?" Or sarcoma? The forceps may remove pieces of the growth, but the microscopist cannot tell its character from so small a fragment, and the clinical history in the extreme slowness of the onset, not uncommonly extending over two to five years, the difficulty of deciding the question of the glandular involvement, and the frequent doubt as to possible syphilis, furnish too unreliable grounds for deciding so momentous a question. Some, indeed, so soon as a carcinoma is probable, or even in syphilitic stenosis, would operate out of hand—a rashness we are glad to think that is rarely found.

Dr. Cohen has justly pointed out the miserable condition of those who do not die at once, and that "survival" and "recovery" are by no means identical terms.

Czerny asks, "What would you wish to be done to yourself?" To which we reply, that if our editorial larynx were so diseased, at the proper time we would gladly undergo tracheotomy, and then live in as great comfort as we could attain, and die without the knife.

PROVISIONS AGAINST WATER CONTAMINATION.

A SOCIAL and civic problem of continually increasing importance is the preservation of the water-supply of cities and towns from contamination. It is more especially the duty of the medical profession, through their recognized organs, to expose the dangers of pollution of the potable waters, and to indicate the remedies to be adopted. It is their duty to educate the people, that the necessary legislation may be obtained, and further and more serious mischief prevented. In this country the people must necessarily be in advance of their legislators; they must have a clear conception of their needs, and then the legal remedies can be provided accordingly.

The difficulties in the way of suitable legislation to preserve the potable waters of the country from contamination, are, indeed, very great. The people are not sufficiently well informed to appreciate the nature and the sources of the danger to which their health is exposed by neglect of appropriate sanitary provisions. The sparseness of the population, and the apparent remoteness of the dangers, have influenced the well informed to regard any present precautions as superfluous. The public conscience has been lulled into a state of indifference and fancied security by the confident assertions of the chemists, that potable running waters purify themselves in the course of two or three miles. These various influences have combined against efforts to move the people to act in their own defence. This passive resistance to the proper measures, is even more difficult to overcome than active hostility.

Legislation to prevent contamination of streams and rivers supplying potable waters to cities and towns will always be opposed by certain vested

rights, by the interests of powerful corporations, and by that large body of tax-payers, who never assent to the expenditure of public money for objects which seem to them more largely æsthetical than useful. This opposition can be overcome only by the clearest evidence of pollution, and of the tremendous evils arising therefrom. Within the past few years the water-supply of Boston, Philadelphia, and New York, have alike presented obvious evidences of contamination. When the eye and the taste of the public are assailed, there is no need to appeal to the microscope and chemical tests. General apprehension as to the state of the water-supply in most of the great cities is now felt. The universal inquiry is, how far can our senses be trusted in this matter? The public mind is therefore awake, active, and in a condition of receptivity. What reply do our experts in water analysis make to the anxious inquiry? On their reply, and on the representations of the medical profession, largely depends the fate of the legislation now imperatively demanded. It needs only a reference to the remarkable differences in the results of the London analysts in regard to the condition of the water-supply of that city, to learn that the present state of chemical knowledge does not justify the confidence now expressed by chemists in their ability to define all the products of the reactions occurring in polluted water. For many kinds of impurities, the senses of sight, taste, and smell, afford more valuable information than the processes of the chemist. The mode in which organic matter is now detected is far from satisfactory. It is true, the presence of nitrates, and of ammonia, may be unerringly detected, but these are products of nature's chemical reactions; the substances out of which they are elaborated are not ascertained with a degree of certainty which does not admit of doubts—of serious doubts. It is questionable whether ordinary sewage is disposed of by oxidation, precipitation, and combinations, as is alleged, in the space of two or three miles, ordinary flow. It is certain that disease germs cannot be so disposed of, and these, without doubt, elude the highest chemical skill devoted to their discovery. Many noxious matters from dye and chemical works, minerals from mines, and other similar substances cannot be rendered innocuous by any length of stay in running water. It is obvious, that although we may obtain valuable information from chemical investigations, we ought not to rely upon them in the present state of knowledge, when it is known that various harmful substances, sewage, and disease germs, enter the water-courses. When the drainage of cities, towns, manufactories, breweries, mines, etc., flow into a river furnishing the water-supply, it may be confidently asserted that such water is contaminated to a less or greater extent, although chemical analysis may give negative results.

What then is the remedy? The English, with the practical good sense which distinguishes all their sanitary work, have early recognized the danger arising from pollution of the water-supply, and Parliament has enacted stringent measures to prevent it. Notwithstanding the comprehensive nature of these laws, they have not yet fully succeeded, and there are still loud complaints of sewage contamination, and of poisons from chemical works. But the evils of polluted water are so obvious, that Parliament will not fail to legislate effectively, if the measures now in force prove inadequate.

The legislation demanded in the interest of a pure water, is with us, State and National. Cities should be empowered by the Legislature of each State to provide against contamination of their own supply, and the National authority must be exerted when the necessary legislation includes inter-State regulations. In the absence of suitable laws to prevent contamination of potable waters, what must be the condition of the water-supply to many American cities in the course of the next half century? As populations, manufactories, and various industries increase, the streams will receive all the waste products in increasing quantity yearly, for the selfishness of men can be depended on to secure the easiest and least expensive outlet to their various excretions.

"DIRT WANTED HERE."

Such would be an appropriate motto for some of the daily newspapers. News of such a character as to be fit only for the *Police Gazette;* scandals so revolting as only to be whispered from man to man; scenes that bring blushes to the cheek, are all spread abroad in their columns for the community at large to read—men, women, children—and the unsavory mess is made to attract the more attention by large headings in displayed type. Where any crime is involved, any law broken or evaded, any evil liable to befall society, then we can understand and approve the motive which impels the exposure of even reeking filth. Moral sanitation has its parallel with hygiene. But unless there be some such reason, the needless publication of such nastiness is more than unwise; it is positively harmful to the best interests of society. What wise parent wishes his sons and daughters to become familiar with the circumstantial particulars of murders, seductions, rapes, divorces, and other such filth from the slums; or with the necessarily disagreeable details of the morgue or the dissecting-room, unless there be some overweening reason why they should be so? Sometimes, as we have said, it is necessary to publish

such stuff. But it is the frequent and the needless publication that we protest against.

We have been led to these remarks by seeing lately in the *Press* and the *Times*, of this city, two articles in point. In the *Press*, nearly a column is given up to "Sights at the Morgue—The Horrible Curiosity that moves both Men and Women—Members of the Weaker Sex willing to Coin all manner of Deceptive Stories, and even to go without their Meals, to Look Upon a Corpse;" while the *Times* fills its column with an article on "Searching for a Corpse—A Bogus Burial and the Result—How the Medical College Vaults were Scoured for the Remains of Alfred Breslow by the Dead Man's Family —An Old Ghoul's Horrible Work in the Vats." Now, even if every word of these articles were true, what good was done? Was any abuse corrected? Any social ill-tendency lessened? Any man or woman—we need hardly add any child—made wiser, better, happier, or worthier in any way? Are not the tendencies and the results of such articles purely and simply bad and degrading, lowering the moral status and defiling more or less the mind of every reader?

But there is another point from which this may be viewed, and that is the personal one. In the article in the *Times*, the search is stated to have taken place in Dr. Keen's anatomical school, and any one reading it would suppose it to have occurred within a day or two. The fact is well known in the profession that this school has been closed since March, 1875, and we learn that the event referred to occurred *eight or nine years ago*, and that the whole article is a piece of descriptive fiction. It states that the corpse was "stolen," whereas, even if the body ever were delivered there (of which there is not the slightest proof), it was delivered by the Coroner, according to law, and only a wise courtesy on Dr. Keen's part allowed any search at all. That the bodies in the "black basin" or "corpse vat" were, in turn, "gaffed with an iron hook," any doctor knows is false, while the disgusting description of the "ghoulish fisherman waist-deep among the ghastly contents of the vat," even if it were true, would mark the reporter as the "ghoul."

We have said enough of its influence on the public; but must it not also injuriously and unjustly affect Dr. Keen's standing in the community? What layman that reads it but feels a shudder and imagines that Dr. Keen countenances stealing bodes, and is a frequent spectator of such disgusting sights, instead of this being, as we are informed, the solitary instance of any such search during his ten years of teaching at the school, and that then it was done with due decorum?

The effect on anatomical science, too, is not slight. The public are naturally very jealous of dissection. The days of Burke and of the "resurrectionists" are not so far away but that they still have their weight. Should the public press, recognizing the value and the absolute necessity of dissection, make it appear as horrible and revolting as possible, and lead legislatures and people to cripple and obstruct it wherever they can? The question answers itself.

Good morals, the advancement of medical science, and personal rights, all are injured by such publications.

THE RELATIVE VALUE OF LEGAL AND MEDICAL SERVICES.

IN view of the opposition even to the moderate compensation proposed to be awarded to the physicians of the late President Garfield (for it should be remembered that no bills have ever been presented), we desire to call attention to the fees paid by the Government to the lawyers in the "Lewis Will Case."

The amount bequeathed to the Government by Mr. Lewis towards the payment of the national debt was about $1,500,000. His natural heirs contested the will. Four extra lawyers were engaged as counsel for the United States, and they *compromised* the suit at $1,000,000, and then sent in bills amounting to $105,250! The Court cut them down to an aggregate of $72,750, and this sum has just been paid without raising a murmur in Congress, where there is evidently no difficulty in appreciating the value of *legal* services, even when the Government does not gain the suit. Mr. Gilchrist (who modestly had demanded $29,000), Mr. Keasbey, and Mr. Pierrepont each received $20,000, and Mr. Parker $12,750.

We commend to members of Congress a comparison of the time, labor, skill, and responsibility involved in compromising the Lewis Will Suit and in attending President Garfield through his long and fatal illness, with the sums actually paid by the Government for professional services in the former case and proposed to be paid in the latter.

DR. JOHN BROWN.

IN the July number of *Good Words* is a short sketch of Dr. John Brown, by Rev. Dr. Walter C. Smith, which we commend to our readers as one of the most graceful and appreciative notices that we have seen. Lively, witty, admirably written, Dr. Smith's article presents Dr. Brown to us in a most life-like manner. The portrait on wood is by far the best we have seen; no one who looks on that refined and noble face can for a moment doubt that it is the index of the pure and lovely soul within.

John Brown's place in literature is assured, self-distrustful as he unfortunately was to a degree; he

has left us but little, but that little is all pure gold. Had he written nothing else than "Rab," his fame would be permanent. But "Marjorie Flemming," "Our Dogs," his sketch of his father, and of Dr. Chalmers, well show the power and the pathos, the quaint humor and the thoughtfulness of the man, the like of which blended with a style so polished and a scholarship so broad, it is not often given to us to see. Holmes of the present day, Lamb of the past, are similar spirits, yet each unlike.

If any of our readers have missed the rare pleasure of his books, let them first read Dr. Smith's sketch, and then every page that John Brown has left.

REVIEWS.

Excision of the Tongue: the Substance of a Paper Read before the Surgical Section of the International Medical Congress, held in London, 1881. Reprinted from *The Lancet*, October 22 and 29, 1881. By Walter Whitehead, F.R.C.S.E., F.R.S. Edin., etc. 8vo. pp. 18. London: J. & A. Churchill, 1881.

The author's object, in the interesting paper before us, seems to be two-fold: 1st, the advocacy of the method of removing the whole tongue, with scissors, through the mouth, for cancerous new formations; and 2d, the presentation of a plea for more accuracy in noting and reporting cases operated upon for these growths in whatever way it is done.

In both respects he has succeeded admirably. After referring to his first operation with scissors, in 1877, he describes the steps of this method, and gives a table of 28 such operations (15 by himself), with only one death as the immediate result of the operation. (Two other deaths occurred *after* the operation, but they resulted from remote causes.)

Mr. Whitehead, after considerable experience in removing the tongue by different methods, prefers the one under discussion, as being simple, easy, usually free from troublesome hemorrhage, and not liable to be followed by septic absorption. He entirely dissents from a statement of Prof. Stokes, that cutting operations for removal of the tongue are especially liable to the occurrence of hemorrhage and septic infection, saying that, from his own experience and the examination of records of over 250 cases, he should say "the danger from hemorrhage, when either the knife or scissors is used, is simply *nil*."

The use of the *écraseur* and of the galvano-cautery he opposes. Billroth's plan of ligating the lingual arteries before removing the tongue through the mouth, he thinks might be preferable to his own method, when more than the tongue was to be removed.

When the question of the actual results of operations for the removal of cancerous growths is raised, opinions are apt to differ very much. The author, speaking from cases where years of peace and immunity from apparent disease have followed *thorough* extirpation, advocates running no risk of leaving any portion of the disease behind, but to excise the whole tongue when the new tissue has attained any considerable extension.

The importance of this subject is apparent when it is considered that the deaths from cancer in England, which in 1851 numbered 5,218, numbered 12,799 in 1879, and the fact, as the author says, that "We have no reason to suppose at the present day that the internal administration of medicine, or that the topical application of drugs" (we suppose he does not include caustics), "has the smallest influence in arresting the progress of cancer; consequently, unless surgery can accomplish this, we must regard the disease as hopelessly incurable."

The pamphlet concludes with a plan for blanks, to be filled up in recording cases of excision of the tongue, which can be commended to all hospital surgeons.

CORRESPONDENCE.

THE UNIVERSITY OF LEYDEN, OLD AND NEW.

Seven years ago, February, 1875, the University of Leyden celebrated its three hundredth anniversary with a jubilee of ceremonies appropriate to such an occasion. An existence of three centuries would seem to be enough of itself to inspire a feeling of reverence, but Leyden has higher claim to fame than comes of mere survival through centuries of time. Few institutions of learning in the world can show such a distinguished roll of names among its teachers, and none has ever exerted a deeper or more lasting influence upon the minds of men. New sects of religion were founded or advocated here by Arminius and Gomar, whose followers kept up their acrimonious disputes for a century after their death, and at one time almost divided the religious world. Here lived and taught Sulmasius, and Scaliger, and Grotius, and Descartes, the same Cartesian who said that "if it be possible to perfect mankind, the means of doing it would be found in medical science," and here lived and taught, and hither flocked to hear him students from all parts of the civilized world, Herman Boerhaave, the greatest clinician of his day. A fine bronze monument to him stands just in front of the hospital grounds, looking out upon the little stream, part of the last of that classical river, the Rhine, as it winds its sluggish way to the sea, and facing a bit of landscape set off with a fine old Holland windmill, just such a picture or poem it makes as a painter might put upon canvas, or a poet into song. In the old church of St. Peter, in the town, is his tomb, on which there is an urn of black marble encircled with a wreath, and bearing upon its supporting shaft the simple inscription "*Salutifero Boerhavii genis sacrum.*" His portrait is given a prominent place among those of all the most famous professors of Leyden in the great room of the Senate, which we would call the faculty-room, of which all the guide books quote Niebuhr as saying in his Roman History that "no locality in Europe is so memorable in the history of science as this venerable hall." It is, in truth, an awe-inspiring room, not only to the green-room candidate, but to any one who has in his soul anything at all of the "spirit of discipleship." Its four walls are literally tapestried with the portraits of famous men, and a delightful relief it is, after a long contemplation of the stupid, heavy figure-heads of the nobility in the various museums, or the ecstatic zealots in the churches, to look upon these mild, benignant, faces in which the light of reason conspicuously shines.

Leyden has now only about eight hundred students (three hundred medical), but the great decline in number is due not to any declension in its attractions, but to the comparative decadence of the nation itself. At one time Holland was mistress of the seas, and was the most prominent power of Europe, after Spain, but she is now reduced, barring her Indian colonies, to a little strip of ground which she has to continually fight the sea to maintain, and which we might say, being mostly below its level, properly belongs to the sea. So the Dutch language is spoken over a very limited sur-

face of the earth. Nobody outside of Holland cares to learn it, and hence, as all instruction here is imparted either in Dutch or in Latin, which is being less used every day, the students of Leyden are pretty much all from Holland. Moreover, Holland has several other universities, at Gromingen, at Amsterdam, at Utrecht, each of which draws its proportion of students away from Leyden. So far as concerns the "inducements," or, as the college circulars say with us, "the facilities," of instruction, they are better in Leyden than ever before. There may be a larger, but there is not in Europe a finer, collection than is found in the Museum of Natural History, nor is there anywhere a finer, or better arranged, or better sustained museum of comparative anatomy. The clinical departments were never as large or as well conducted as now, and the cost of living, which our college circulars never fail to mention, is reduced to figures which might be anticipated in a city with houses enough for 100,000 inhabitants, its population once, reduced to 40,000, its population now. There is, hence, a corresponding "freedom from temptation," this for the benefit of the academic department (medical students being everywhere safe), as it would be hard to find a place so thoroughly invested with the "holy calm" of academic shades.

Of the museum of anatomy, I have already made mention, but something more than mention should be made of such a rich and varied cabinet. It is embraced in three large rooms whose centres are covered with tables, and whose walls are lined with cases containing the specimens, all under glass. The osteological specimens are perfectly white, the fine macroscopic (not microscopic) shavings showing the architecture of bone, being as thin as paper, and as white as snow. Of the wet specimens, I may say that I saw none that were not perfectly clear, and this fact bespeaks a care in original preparation which curators and prosectors will understand. The section illustrative of embryology and teratology is singularly fine, and the pathological collection of scoliotic skeletons is almost unique. Among the curiosities I was shown the epidermis of nearly the entire hand of an infant, a flake or two being lacking from the palmar surface; and, among the calculi, an enormous phosphatic stone nearly as large as the fist, with one end in cauliflower excrescence, like spiculæ of newly-fallen snow, and one large calculus about the size of a hen's egg, quite as long but not more than half as thick, removed by the patient himself with the knife, an old shoe-knife, and was informed that the patient lived after the operation, which was supra-pubic, of course, for twenty-three years.

Having noticed that the plants in the botanical garden were arranged after the system of Linnæus, who taught here once, by the way, though not in the University, I had the curiosity to ask the prosector of anatomy what theory of development was taught here now. "Why," he said, with a smile, "no anatomist, now-a-days, teaches any other theory than that of Darwin."

J. T. W.

LEYDEN, JULY 15, 1882.

"PROFESSIONAL POACHING."

To the Editor of THE MEDICAL NEWS.

SIR: The discussion of the New York Code of Ethics, in your valuable journal, has presented the new departure in its true relations to the profession and laity. And now, while the Saratoga season is upon us, and we are moving amid its varied pleasures and experiences, may I trespass upon your columns with some reflections upon matters professional, in the light of the new and revised edition of this ethical gospel of peace, as set forth in one of its phases in February last. The sentiment of the profession has been emphatically expressed in many quarters in regard to this "progressive liberality" of the New York State Medical Society. There was, however, another feature developed at that meeting, having wider scope in its "liberality," and being more radical a "reform" than the changes in the Code which were at last adopted. We refer to the resolution offered by Dr. Roosa, which received the sanction of the majority of members voting; the vote being significant as a manifestation of the opinion of some in regard to the existing Code, and possibly in regard to a necessity for the existence of any code whatever. The resolution embodied the following: "That the only ethical offences for which they (the profession) claim the province to exercise the right to discipline are those comprehended under the commission of acts unworthy of physicians and gentlemen." Also, "That we enjoin the County Societies and other organizations in affiliation with us, that they strictly enforce the requirements of this Code."

The reported vote upon this was 39 in favor and 37 against, and, as it was considered by the President an amendment to the by-laws requiring a two-thirds vote, it was declared lost. In the light of such sentiment, we rise, Mr. Editor, to make inquiry. A few years ago questions of ethics were discussed in a prominent medical journal relative to the position of *metropolitan* and *rural* practitioners (as they were editorially termed) at places of summer resort. Now, it may be comfortable to leave the *metropolis*, and, straying out into the nooks and corners of the country, to pick up crumbs of professional experience that will meet the expense of summer travel and the demands of the landlord. The wearied metropolitan may find rest and refreshment in the process, and may add to his physical condition a muscular tone which will help him cheek it through if disturbed by reflections upon the mode and manner of his professional poaching. He may gain the ear of the hotel proprietor, and insinuatingly suggest the advantage it may be to the house to have him around, and he may seek acquaintance with each newly arrived guest, incidentally making mention of his metropolitan origin, and making the position more sure by the presentation of his professional card. The palm of the Ethiopian hall-boy may be impressed by a percentage on every professional call he may bring to the waiting practitioner, or the local paper may announce the arrival at the fashionable hotel of —— M.D., where he is to pass the season. The calculating practitioner may visit his professional brethren in the various cities and prepare the way for business by announcing the fact that he will be located thus and thus during the summer months, and patients may be referred to him while he rusticates amid the pleasures of his country surroundings. The patient may travel in search of improvement, bearing in his pocket the letter from his family physician that refers him to —— M.D., who will be found sojourning at some first-class hotel for *the season*, and when the crowd have departed, the harvest has passed, and the pickings grown poor, the sojourning M.D., will return to his house and home, waiting the coming of another season, when he again may seek rest, refreshment, and additional practice. We paint no imaginary picture, and in the light of experience, Mr. Editor, rise to the inquiry, where in all this is the code of the gentleman? Are these practitioners within the code as pictured by the genial Roosa? Had this liberal code been adopted (and from the vote there seemed not a few who favored it), how were such gentlemen to be reached?

The second clause of the resolution enjoins upon County Societies, that they strictly enforce gentlemanly requirements, and we inquire how and in what way could a county society enforce upon these wandering practitioners gentlemanly requirements which they so

instinctively and so industriously ignore? As these gentlemen are practising in Saratoga County, is it within the province of the Saratoga County Medical Society to exercise the right of gentlemanly discipline? or would these nomadic professionals be amenable to some other Society, which shall teach them professional courtesy? They are legally qualified as practitioners, if not ethically qualified in the manifestation of exemplary traits of gentlemanly character, and one could hardly expect, on their part, any especial regard for ethical considerations, whether embraced under the existing Code or that proposed by Dr. Roosa. County Societies might find it a weighty task sustaining the privileged position of interpretation of gentlemanly acts and enforcement of gentlemanly discipline. Timothy Titcomb, in one of his essays, remarks: "It seems to me, either there is a great deal of human nature in a pig, or that there is a great deal of pig in human nature;" and we are glad the resolution did not prevail in this view of our professional relations during the harvest of a Saratoga season.

INQUIRER.

Saratoga Springs, Aug. 17, 1882.

NEWS ITEMS.

LONDON.

(*From our Special Correspondent.*)

The Royal College of Physicians on Medical Advertising.—The Fellows of the Royal College of Physicians of London met in solemn conclave last week to consider a resolution condemning advertisements of medical books in the lay press, and the giving of medical testimonials to the proprietors of mineral waters, medicinal preparations, etc. An animated discussion ensued, and ultimately the following resolution was passed: "That the system of extensively advertising medical works, and the custom of giving laudatory certificates of medicinal and other preparations and medical and surgical appliances, whether for publication or not, is misleading to the public, derogatory to the dignity of the profession, and contrary to the traditions and resolutions of the Royal College of Physicians."

It was pointed out that extensive advertising in the medical press was deceptive, as tending to associate special names with particular diseases. An interesting feature of the debate was the confession by a distinguished physician that he received five guineas for a certificate praising a "favorite natural aperient." We now know the value of the much-advertised recommendations of this water.

An Easy Method of Detecting the Bacillus Turerculosis for Diagnostic Purposes.—The corroboration of Dr. Koch's discovery of a *Bacillus tuberculosis* has been attempted by several histologists in London; and at the Laboratory of the Brown Institute in particular considerable labor has been expended in this direction, which has not met with success. Dr. Heron has obtained the bacillus by Ehrlich's process, but with this exception the specimens that have been used to demonstrate this newest "germ" have been imported from Germany. Now, however, one of our best microscopists, Dr. Heneage Gibbes, who has been remarkably successful in multiple staining, has hit upon a simple, and, he says, certain, method of detecting this bacillus, and one which brings it out so clearly that it can be demonstrated by a common microscope with only one-quarter inch objective, and no special means of illumination. The colors used are magenta crystals and chrysoidin; the latter is a brown, which does not stain the ground substance so intensely as vesuvin. They can be procured from the Badesche Anilin Fabrik, 22 Bush-lane, Cannon Street, E. C. The following are the formulæ he has used: Two grammes of magenta crystals, three grammes of pure anilin, twenty cubic centimetres of alcohol, specific gravity .830, twenty cubic centimetres of distilled water. Dissolve the anilin in the spirit, and then rub up the color with it in a glass mortar, adding the spirit gradually until it is all dissolved, then add the water slowly, while stirring, and keep in a stoppered bottle. Make a saturated solution of chrysoidin in distilled water and add a crystal of thymol to make it keep; a dilute solution of commercial nitric acid is made, one part of acid to two of distilled water. For sputum, the following process is the most simple: Spread a thin layer on a cover glass and let it dry; when quite dry pass it two or three times through the flame of a small Bunsen burner, and let it cool. Filter two or three drops of magenta solution in a watch glass, place the cover glass with the sputum downwards on the stain, taking care there are no air bubbles under it. Let it remain for fifteen or twenty minutes, then wash in the dilute acid until all color has disappeared; remove the acid with distilled water, when a faint color will return; then place the cover glass in the same manner as before on a few drops of chrysoidin filtered into the bottom of a watch glass, and let it remain a few minutes until it has taken on the brown stain; wash off the superfluous color in distilled water, and place the cover glass in absolute alcohol for a few minutes; remove and dry perfectly in the air; place a drop of Canada balsam solution on the cover glass and mount. Sections of hardened tissue are treated in the same manner with the necessary modifications.

EDINBURGH.

(*From our Special Correspondent.*)

Edinburgh University.—Mr. John Chiene, M.D., F.R.C.S. Ed., has been appointed by the curators to succeed the late Professor Spence in the chair of surgery. Mr. Chiene is a graduate of this university, and for four years immediately after obtaining his degree assisted Goodsir, and latterly Turner, in the anatomical department. He is thus an excellent anatomist, and this is further assured by the fact of his having held for several years the position of Examiner in Anatomy for the University degree. On leaving the Anatomical Department he commenced the practice of surgery in the city, working for the most part under the auspices of Professor Lister, who strongly advocated Mr. Chiene's claims for the chair. He was also intimately associated with Lister in his hospital work, and since that distinguished surgeon went to London, Chiene has been regarded as the principal exponent in Edinburgh of antiseptic surgery. Perhaps upon this ground more than any other, was Chiene selected to succeed Spence; and it is fitting that Edinburgh, as the birthplace of antiseptic surgery, should thus prominently acknowledge its merits. Mr. Chiene, although a young surgeon, has found time to greatly enrich the literature of both surgery and anatomy. He is the author of an excellent work on "Surgical Anatomy," and recently contributed to the "American Practitioner" a series of lectures on the "Elements of Surgery," which show how well he has grasped the principles of the Listerian treatment. His papers on "Healing by Blood-clot," and on "Bacteria in Healthy Organs" illustrate the originality of his mind and his extensive acquaintance with other branches of medicine, as well as those of surgery and anatomy. Mr. Chiene has also proved himself a most successful and enthusiastic teacher in the extra-mural medical school.

VIENNA.

(From our Special Correspondent.)

PROF. HERMANN NOTHNAGEL.—The following notice appeared recently in one of the Vienna newspapers:

"His Royal and Imperial Apostolic Majesty has been most graciously pleased, through his most high resolution of July 11, to call Dr. Hermann Nothnagel, Professor in the University of Jena, to be Regular Professor of Special Pathology and Therapy and of the Medical Clinic in the University of Vienna.

"CONRAD EYBESFELD,
"Minister of Education."

The selection of Prof. Nothnagel as Duchek's successor is very cordially received by professors, teachers, students, and the medical press in Vienna. The fact that Baron Conrad Eybesfeld, Minister of Education, did not allow himself to be influenced by the politicians, who were working for the interests of local candidates, is generally recognized. Prof. Bamberger, for some time past, has been in feeble health, and this circumstance has probably led to the sudden and entirely unexpected appointment of Prof. Nothnagel.

While, upon the one hand, Prof. Nothnagel, as Professor of the First Medical Clinic in the "Allgemeine Krankenhaus," will occupy the same position which ten years ago Oppolzer and Skoda held, and must thereby recognize in the appointment reward for his great work; on the other hand, the Faculty of Medicine of the University of Vienna must congratulate itself upon the acquisition of a man who will restore to the school the prestige in clinical medicine which has gradually been lost through the development of the so-called "specialties."

Prof. Nothnagel was born September 28, 1841, in Alt-Sutzeporche, a small village near Berlin. He was the son of a physician. His gymnasial studies were completed in Königsberg in the Neumark; his medical studies, occupying the years 1859–1864, were pursued at the University of Berlin. He passed a brilliant examination before the State Board in the winter of 1864–'65, after he had obtained his degree of Doctor of Medicine on August 6, 1863.

The instructors who are especially to be named as influencing the formation of Nothnagel's medical character are Virchow and Traube. Traube was especially interested in his student, and remained in intimate friendship with him until his death.

In 1865 Dr. Nothnagel went to Königsberg, in Prussia, as the assistant of Leyden, when, in 1867, he became Privat-Docent, and taught auscultation, percussion, laryngoscopy, and electro-therapy. Leyden's influence led him to the study of nervous diseases, and this period may be regarded as the starting-point of his scientific life. In 1868–1870 he was a Privat-Docent in Berlin. In 1870 he transferred himself to Breslau in a similar capacity. In the same year his remarkable "Handbook of Therapeutics" appeared in Berlin; in 1874 the second, and in 1880 the fourth edition of this admirable work appeared. In Leipzig, in 1872, an essay upon the "Epileptic Seizure" attracted deserved attention. After two years' work in the University of Breslau, Dr. Nothnagel accepted a call, in the fall of 1872, as regular Professor of Therapeutics and Pharmacology in Freiburg, when he had charge of the Poliklinik, while Kussmaul was Professor of the Clinic.

In the summer of 1874 two professorships were offered to him at the same time—one in Zürich, made vacant by Biermer's departure: and one in Jena. He accepted the less brilliant position in Jena, in which city he has most zealously worked since his appointment. In 1875 and 1876 appeared his "Magnum Opus," "Handbook of Diseases of the Nervous System," consisting of two volumes, of which the one was edited by himself, in connection with Eulenberg, Ziemssen, Jolly, and J. Bauer; the other with the assistance of Obernier, O. Heubner, G. Huguenin, and E. Hitzig. Both volumes will be found in Ziemssen's "Handbook of Special Pathology and Therapy." Minor essays are contained in R. Volkmann's collection of clinical papers. Among them may be mentioned "Neuritis, in a Diagnostic and Pathological Point of View" (Leipzig, 1876); "Symptomatology of Intestinal Ulceration" (Leipzig, 1881). "The Influence of Opium upon the Intestinal Tract" has recently appeared in Virchow's Archives. One of his chief works is undoubtedly "The Topical Diagnosis of Diseases of the Brain" (Berlin, 1879).

PROF. V. LANGENBECK.—Langenbeck has resigned from the Berlin Medical Society, of which he has been a member since its foundation. Becoming ceremonies will be celebrated in honor of the retiring surgeon in Wiesbaden.

PROF. VOLKMANN.—Prof. Richard Volkmann has declined Langenbeck's Chair of Surgery in Berlin, and remains in Halle. The citizens of Halle are perfectly jubilant over the declination, as it certainly indicates a high regard for the honor and fame of the university of that city.

SUCCESSOR TO LANGENBECK.—Prof. Bergmann, in Würzburg, Prof. König, and Prof. Czerny were proposed as candidates for the vacant Chair of Surgery in the University of Berlin. Prof. v. Bergmann was elected.

LIGATURE OF THE INNOMINATE ARTERY.—MR. THOMSON'S patient died on Thursday, July 20, the forty-second day after ligature of the innominate artery. There was no recurrence of bleeding after the thirty-ninth day. The sinus was found to terminate in an ulcer, which involved the anterior wall of the junction of the innominate, carotid, and subclavian arteries. The innominate and carotid were filled with clot; the subclavian contained a clot occluding it to the extent of half an inch. The position of the ulcer was on the distal side of the ligature, the constricted portion of the innominate not being involved. The hemorrhage had apparently taken place from the innominate, as there was a recent blood-stain on the cardiac side of the clot. None of the vessels were pervious to water forced in with a syringe. The aorta was atheromatous. Consolidation was proceeding satisfactorily in the tumor. Excluding the successful case of Dr. Smith, of New Orleans, this is the second longest survival on record, Graefe's case having reached the sixty-seventh day, and Cooper's the thirty-fourth.—*British Medical Journal*, July 29, 1882.

GASTROSTOMY.—MR. LANGTON has recently performed this operation at St. Bartholomew's Hospital on a young child. The patient was suffering from a stricture of the œsophagus, produced by having swallowed a quantity of potash lye about six months earlier. The patient was seen at the consultation on June 22d, and Mr. Langton was then supported by his colleagues in the determination to attempt to relieve the child, who was nourished solely by enemata, by opening the stomach. Under these circumstances, the first part of the operation was performed on June 24th; and five days later the stomach was opened, and a soft tracheotomy tube introduced. The patient recovered well from the operation, and there was no general peritonitis; but it gradually sank, and died of exhaustion a week after the gastric fistula was first used for the introduction of food.—*Brit. Med. Journ.*, July 15, 1882.

A NEW AND CHEAP DISINFECTANT.—Dissolve half a drachm of nitrate of lead in a pint of boiling water; also two drachms of common salt in a bucket of water;

pour the two solutions together; allow the sediment to precipitate, and the clear supernatant fluid will be a chloride of lead. This will deodorize and disinfect sinks, water-closets, or drains, and a cloth dipped into it will sweeten a fetid atmosphere.—*Dublin Medical Journal*, May, 1882, from *Australasian Medical Gazette.*

Threatened or Actual Epidemics.—The Supervising Surgeon-General of the U. S. Marine-Hospital Service, under date of August 9, 1882, has issued a circular to Medical Officers of the Marine-Hospital Service, and officers of State and Municipal Boards of Health, informing them that Congress, at its last session, enacted that

"The President of the United States is hereby authorized, in case of a threatened or actual epidemic, to use a sum not exceeding one hundred thousand dollars, out of any money in the Treasury not otherwise appropriated, in aid of State and local boards, or otherwise in his discretion, in preventing and suppressing the spread of the same."

He further informs them that the President has decided to employ this contingent appropriation through the agency of the Treasury Department, and that, in case of a threatened or actual epidemic, immediate action will be taken, upon application from the Governor of a State addressed to the Secretary of the Treasury.

The attention of Medical Officers of the Marine-Hospital Service is called to the following paragraphs of the regulations governing this service, approved by the Secretary of the Treasury November 10, 1879:

Paragraph 61.—"Medical Officers and Acting Assistant Surgeons of the Marine-Hospital Service will inform themselves fully as to the local health laws, and the regulations based thereon and in force at their respective ports and stations, and will comply strictly therewith."

Paragraph 62.—"Medical Officers and Acting Assistant Surgeons are, under the direction of the Supervising Surgeon-General, required to observe and to aid in executing the quarantines and other restraints established by the health laws of any State, and to report forthwith to the said Surgeon-General any important event or fact that may come to their knowledge bearing upon the importation, outbreak, or spread of cholera, yellow fever, small-pox, typhus, or other epidemic disease, at or near their respective stations."

Immigrant Inspection Service.—Dr. John H. Rauch, supervising inspector in the Illinois district, submits the following report for the month of July, of the operations of the Immigrant Inspection Service, N. B. H., in the district under his supervision.

During the month an aggregate of 21,000 immigrants were inspected by the assistant inspectors, who found about sixteen per cent. of these unprotected, liable to contract small-pox and to propagate the disease. The necessary precautions were taken with all of these cases, as well as with one case of varioloid found in transit, and several convalescents, one being an immigrant removed from a train and treated in the small-pox hospital at Rochester during the month of June.

Although there is a marked improvement in the character of the protective work done on shipboard, as compared with that noted on beginning inspections, this is by no means uniform, as is seen by the following extracts from the assistant inspectors' notes of careless, imperfect or neglected vaccinations and revaccinations:

Steamship *Republic.*—"Practically worthless; no adult vaccination."

Strasburg.—"Very poor; only eleven successful out of 340 vaccinations—result evidently due to want of care on part of steamship surgeon."

General Herder.—"None showed successful vaccination."

Hermann.—"Only thirteen properly protected out of 410; the vaccination performed on shipboard very unsatisfactory. All passengers provided with *protection cards.*"

The *Strasburg* and *Hermann* are regular Baltimore packets, and the latter, at least, is known to have been the means of introducing small-pox into five localities in Illinois during the past spring.

It might be profitable to inquire to what extent such vessels and the neglect of their surgeons are responsible for the present prevalence of small-pox in Baltimore.

On July 28, among the passengers by the steamer *Erin*, were found ten convalescents who had had small-pox within a month before leaving Ireland.

Notwithstanding that the aggregate number of inspections was less in July than in the preceding month, the relative number is much larger. Immigration has probably fallen off one-half since May last, and it is believed that of the total number now arriving, very few find their way into Illinois or cross the State without being subjected to one or more rigorous inspections. The reports of small-pox outbreaks in the region west of the Mississippi River have been notably less during July, while in this State there has not been a single case reported during the month, outside of Chicago. The following table shows the steady decline of the disease in that city:

Month.	Cases Reported.	Deaths.
April,	321	92
May,	281	65
June,[1]	124	29
July,	44	11

At the close of the month there were only ten cases under treatment in the city, and one in the State at large.

In other districts of the service it is observed that increased familiarity with the work has secured increased efficiency, and thus materially lightened a labor which was found to be very onerous during the first month. For example: the vaccinations found to be necessary among passengers arriving over the Grand Trunk road in June were very nearly 36 per cent. of the total inspections. During July, owing to the increased number of vaccinations at Port Huron, Mich., this percentage has been reduced to 8.3 per cent.

Many cases of cholera infantum, measles, and whooping-cough are met with by the inspectors, who, so far as time and opportunity serve, render such medical assistance as is necessary.

The railway service has continued to afford every desired facility to the inspectors, and, aside from the advent of an occasional unannounced train over a connecting line, every emergency has been promptly met. The coaches for immigrant passengers are kept in good sanitary condition, and the general welfare of these people seems to be consulted on business principles.

From June 1st to July 31st there were 47,948 inspections, and 7799 vaccinations.

Health in Michigan.—Reports to the State Board of Health, for the week ending August 5, 1882, indicate that cholera morbus, cholera infantum, and diarrhœa, have considerably increased, that puerperal fever has increased, and that tonsillitis and whooping-cough have decreased in area of prevalence.

It appears that the increased prevalence of cholera

[1] Inspections began June 1.

morbus, cholera infantum, and diarrhœa was coincident with a high temperature, a great increase in relative and in absolute humidity; also with a low atmospheric pressure, and a considerable reduction in the day ozone.

Including reports by regular observers and by others, diphtheria was reported present during the week ending August 5th, and since, at 20 places, scarlet fever at 8 places, measles at 11 places, and small-pox at 17 places, as follows: in Deerfield township, Lapeer Co., July 30; at Lansing (one case, convalescent), July 31; in Crystal township, Montcalm Co. (4 cases), August 1; in Rapid River township, Kalkaska Co. (4 cases), in Orange, in Sebawa, in Danby, Ionia Co., and in Mancelona township, Antrim Co. (3 cases), August 3; at Mt. Morris, Genesee Co. (one case, convalescent), August 4; at Detroit (3 cases), Flint, and Portland (one case), August 5; in Walker township, August 7; at Grand Rapids, August 9; at Clio, Genesee Co., in Ionia township, and near Carson City, Montcalm Co., August 10.

PROF. V. LANGENBECK, on July 24th, on the occasion of his retirement from the Professorship of Surgery, had the compliment of a brilliant reception and collation tendered him by the students of Berlin.

THE BRITISH MEDICAL ASSOCIATION held its Fiftieth Annual Meeting at Worcester, August 8, 9, 10, and 11. The programme shows good scientific work in the eight sections. The Address in Medicine will be delivered by Dr. Wade, of Birmingham, the Address in Surgery by Dr. William Stokes, of Dublin.

Dr. Austin Flint, of New York, will read a paper in the Medical Section on the Self-limited Duration of Pulmonary Disease.

We hope to promptly lay before our readers a full account of the meeting, from our Special Correspondent.

PRIZE OF THE ACADÉMIE DE MÉDECINE AWARDED TO DR. H. J. BIGELOW.—The prize of 10,000 francs founded by the Marquis d'Argenteuil, granted every six years to the author publishing the most important advance in urinary surgery, has been divided between Dr. Henry J. Bigelow, for his work on The Treatment of Strictures of the Urethra by *dilatation urodyname*, and Dr. Th. Anger, for his essays on New Thermo-Cautery, Lithotomy Instruments, and Peno-scrotal Hypospadias. Dr. Bigelow receives 6000 francs and Dr. Anger 4000 francs.

OBITUARY.—The *British Medical Journal* announces the death of PROF. F. M. BALFOUR, in Switzerland, from a fall in the Alps.

Francis Maitland Balfour, the recently elected Professor of Animal Morphology in Cambridge, was born in 1851, received his early education at Harrow, and received his degree at Cambridge, where, even as an undergraduate, he distinguished himself by important embryological work. After graduation he went to the Zoölogical Station, at Naples, and there collected the material for his valuable memoir on the Elasmobranchs. He was elected Fellow of the Royal Society, in 1878, and in November obtained the high distinction of a Royal Medal, and in 1880, he received the degree of LL.D. from the University of Edinburgh. He was the author of a multitude of miscellaneous papers on embryology and comparative anatomy, and of the best text-book extant on comparative embryology.

—— On the 13th of July, JOSÉ LAURENÇO DA LUZ, the Portugese surgeon, said by the *O Correio Medico de Lisboa* to have been the peer of Dupuytren and Astley Cooper. Da Luz was Professor of Surgery and Director in the Medico-Chirurgical College of Lisbon, and the founder of the first medical journal published in that city, the *Jornal da Sociedade das Sciéntias Medicas*, to which he contributed a number of valuable articles.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 8 TO AUGUST 14, 1882.

PROMOTIONS.

Colonel CHARLES H. CRANE, Assistant Surgeon-General, promoted Surgeon-General, with the rank of Brigadier-General, to date from July 3, 1882, *vice* Barnes, retired.

Lieutenant-Colonel CHARLES C. KEENEY, Surgeon, to be Surgeon, with the rank of Colonel, June 30, 1882, *vice* Cuyler, retired.

Lieutenant-Colonel JOHN F. HEAD, Surgeon, to be Surgeon, with the rank of Colonel, June 30, 1882, *vice* King, retired.

Major JOSEPH B. BROWN, Surgeon, to be Surgeon, with the rank of Lieutenant-Colonel, June 30, 1882, *vice* Simons, retired.

Major DAVID L. MAGRUDER, Surgeon, to be Surgeon, with the rank of Lieutenant-Colonel, June 30, 1882, *vice* Keeney, promoted.

Major CHARLES PAGE, Surgeon, to be Surgeon, with the rank of Lieutenant-Colonel, June 30, 1882, *vice* Head, promoted.

Captain JOHN BROOKE, Assistant Surgeon, to be Surgeon, with the rank of Major, March 2, 1882, *vice* Frantz, deceased.

Captain WM. H. GARDNER, Assistant Surgeon, to be Surgeon, with the rank of Major, June 23, 1882, *vice* Notson, deceased.

Captain CHARLES SMART, Assistant Surgeon, to be Surgeon, with the rank of Major, June 30, 1882, *vice* Brown, promoted.

Captain WM. S. TREMAINE, Assistant Surgeon, to be Surgeon, with the rank of Major, June 30, 1882, *vice* Magruder, promoted.

Captain MORSE K. TAYLOR, Assistant Surgeon, to be Surgeon, with the rank of Major, June 30, 1882, *vice* Page, promoted.

HARTSUFF, ALBERT, *Major and Surgeon.*—Having reported at these headquarters on 3d inst., surrendering unexpired portion of his leave of absence, will proceed to Fort Union, New Mexico, and report to the commanding officer for duty.—*S. O. 153, Department of the Missouri, August 4, 1882.*

BROWN, J. M., *Major and Surgeon.*—Assigned as Attending Surgeon at headquarters Department of the South, in addition to his duties as Post Surgeon at Newport Barracks, Kentucky.—*S. O. 79, Department of the South, August 10, 1882.*

WILCOX, F. E., *Captain and Assistant Surgeon.*—To accompany Troop F, First Cavalry, to Fort Walla Walla, and then repair to these headquarters for assignment to duty at Vancouver Barracks.—*S. O. 106, Department of the Columbia, July 31, 1882.*

TAYLOR, M. E., *Captain and Assistant Surgeon.*—Relieved from duty at Jefferson Barracks, Missouri, and to report by letter to the Surgeon-General.—*S. O. 185, A. G. O., August 10, 1882.*

POWELL, J. L., *First Lieutenant and Assistant Surgeon.*—Confirms telegraphic instructions of this date to allow the Lieutenant-Colonel Tenth Cavalry, and Troops G and L of that Regiment, and Assistant Surgeon Powell to continue temporarily, and until further orders, at Fort Stockton, Texas.—*S. O. 84, Department of Texas, August 9, 1882.*

MCCREERY, G., *First Lieutenant and Assistant Surgeon.*—Transferred from Fort Apache to Whipple Barracks, Arizona Territory.—*S. O. 119, c. s., Department of Arizona.*

TILERT, R., *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Fort Walla Walla, Wyoming Territory, to accompany Troop E, First Cavalry, to Boise Barracks, and, on arrival there, relieve Assistant Surgeon Wilcox from duty at that post.—*S. O. 106, c. s., Department of Columbia.*

RAYMOND, H. I., *First Lieutenant and Assistant Surgeon.*—Transferred from Whipple Barracks to Fort Apache, Arizona Territory.—*S. O. 119, Department of Arizona, August 3, 1882.*

EGAN, P. R., *First Lieutenant and Assistant Surgeon.*—Relieved from duty at David's Island, New York, and to report in person to the Commanding General Department of Arizona for assignment to duty.—*S. O. 185, c. s., A. G. O.*

WIKEMAN, WM. J., *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Columbus Barracks, Ohio, and to report in person to the Commanding General Department of the Platte for assignment to duty.—*S. O. 185, c. s., A. G. O.*

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

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All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

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ORIGINAL LECTURES.

PECULIAR FEATURES OF PNEUMONIA IN YOUNG CHILDREN.

A Clinical Lecture,

BY W. J. CONKLIN, M.D., OF DAYTON, OHIO,

PROF. OF DISEASES OF CHILDREN IN STARLING MEDICAL COLLEGE.

GENTLEMEN: Within the past few weeks you have seen, in the clinic-room, all of the forms of acute lung disease commonly observed in the young. To-day I have the exceptional opportunity of showing you one of the rarer forms—a pneumonia of the apex.

This little boy, fourteen months old, whose history you have just heard, is suffering from a well-marked croupous pneumonia, limited to the upper lobe of the right lung. Using these cases as a text, it may be profitable for us to devote this hour to the consideration of the pneumonias of early life, with a view of bringing into stronger relief the pathological and clinical differences which the age of the patient stamps upon the disease. The importance of a thorough knowledge of this class of diseases will be appreciated when you remember that fully one-third of all deaths under five years of age depends upon some lesion of the respiratory organs. Jacobi estimates that forty per cent. of the deaths during the first year of life is due to diseases of the digestive, and twenty per cent. to those of the respiratory, system; in the second year the relative proportion is changed, and thirty-six per cent. of the deaths is due to lesions of the respiratory, while only nine per cent. to those of the digestive, organs. Thus stomach and intestines are the broad avenues to death during the first, and bronchi and lungs during the second, year of life. The practical deduction from these figures is that the respiratory organs are better protected during the first year; for unquestionably the tendency to disease and death through the respiratory system is strongest during the early months of life, and steadily diminishes up to puberty. The environments of the infants—the absence of exciting causes—are sufficient to account for the immunity of the early months. We need not dwell upon these points, but certainly the senseless, if not cruel decrees of fashion, in regard to dress, are largely responsible for the frequency of lung troubles in young children. Life and health stand for nothing compared with show. The complacency is refreshing with which a mother will gush over the bare legs and exposed bust of her yearling child, while she robes herself in seal and fur.

In children, as in adults, we meet with two forms of acute pneumonia, but the comparative frequency with which they occur varies greatly at the different periods of life. Lobar or croupous pneumonia is preëminently a disease of adult life, while the lobular or catarrhal form is peculiarly the pneumonia of infancy. In a child under five years of age the presumption is strongly in favor of the catarrhal form, but I am positive that lobar pneumonia is by no means so unfrequent, even in infancy, as many authorities would lead us to infer. As you know, it is not very unusual to meet even nurslings in our dispensary practice suffering from lobar pneumonia.

Squire, of London, reports several cases which came under his observation; Steinitz gives the histories of eighty-four cases which occurred in his clinic at Breslau; and Ziemssen, of Berlin, records one hundred and eighty-six cases, of which one hundred and seventeen occurred in the first six years, and sixty-nine in the succeeding ten years of life. Juergensen, after alluding to the difficulties of diagnosis in children, makes the statement that many who are reported to have died from "teething," "worms," "convulsions," etc., have really succumbed to an unrecognized lobar pneumonia.

Lobular pneumonia is in fact a capillary bronchitis plus an affection of the air-cells, and is happily named broncho-pneumonia. It never occurs as a primary lesion, but is always secondary to a bronchitis or to those specific diseases, as measles and pertussis, in which bronchial catarrh is a part of the natural history. It is also intimately associated with certain diatheses, as rickets and scrofula.

The conditions which render a bronchitis so much more serious in early than in adult life, largely hinge upon the smaller sizes of the bronchioles. To reduce the calibre of a bronchus in an adult by its thickened mucosa and the adhesion to its walls of tough mucus, will only slightly interfere with its function as a carrier of air, but in the smaller tube of the child it means occlusion, more or less complete, with resultant dyspnœa, lobular collapse, and perhaps pneumonic infiltration.

Collapse of the lobules of the lung, which is such a common complication of bronchitis in children, plays an important role in the development of catarrhal pneumonia. Many authorities hold it to be absolutely essential that collapse of one or more pulmonary lobules should precede the inflammation of the alveoli. In this event, the links of the chain are bronchitis, plugging of a bronchus by swollen membrane and mucus, collapse of lobule, and, finally, the setting up in the collapsed portion of an inflammatory process similar to, but not identical with that of croupous pneumonia. Others, while admitting that this is the usual sequence, maintain that the collapse is not essential, and that the inflammation often travels along the successive branches of the bronchial tree, and thus invades the air-cells. The balance of proof is undoubtedly in favor of the view that pulmonary collapse is the very frequent, but not necessary, antecedent of the pneumonia.

It is estimated that one-sixth of the illnesses, and about the same proportion of deaths, in children under five years of age, are due to catarrhal diseases of the respiratory organs. But lobular pneumonia possesses intense clinical interest not only on account of its fatality, but also for the reason that it is recognized as the chief factor in the etiology of caseous phthisis. Under favorable circumstances, the epithelial cells and leucocytes which crowd the bronchioles, alveoli, and intervening connective tissue, undergo a conversion into fat and are absorbed, or into mucus and are expectorated. But if anything occurs to arrest these processes; if the constitution be vulnerable from inheritance, previous disease, or bad surroundings, the inflammatory product becomes converted into a caseous mass, which mechanically compresses air-cells, bronchioles, and blood-vessels until they die, and then the child has so-called caseous phthisis. Again, acute miliary tuberculosis—tubercular phthisis—is by no means an infrequent sequel of a catarrhal pneumonia.

You are already familiar with the clinical portraits of both forms of pneumonia, and I pass at once to the

consideration of some of the more prominent differences between the pneumonias of early and later life.

1. As to the portion of lung involved in the disease. In the adult a croupous pneumonia is very generally limited to the lower lobe of the right lung, but in children it attacks indifferently either lung or any lobe. In a fair proportion of cases the upper and middle lobes are affected with or without implication of the base. Nurslings or feeble children of any age are especially apt to suffer from an apex pneumonia, but it is by no means uncommon in the robust, as in the case before us this afternoon. In fifty-one cases recorded by Meigs and Pepper, the upper lobe was affected in twenty, while in thirty-one the base of the lung was the seat of the disease.

In the catarrhal form of the disease, which is generally bilateral, there also exists in children a greater proneness to implication of the upper lobes than in adults. It is, therefore, an invaluable practical rule, if you would avoid falling into error, to carefully interrogate the apex as well as the base of the chest when a child is ill with a suspected lung trouble of any kind.

A pneumonia limited to the upper lobe would in the adult be open to the gravest suspicion; indeed, it would very positively indicate the presence of a tubercular deposit or a specially vulnerable constitution. In the young, however, it is not unusual to find the apex involved, without any suggestion in the family record or previous history of a tubercular diathesis, and occasionally the inflammation will run its course without anything phenomenal in the symptoms or termination. But it is important for you to remember the clinical fact that, as a rule, an apex pneumonia, be it lobar or lobular, does not run the typical course with which you are so familiar. The inflammatory product is more slowly deposited and more slowly removed, the febrile movement and nervous symptoms are out of proportion to the amount of lung involved, and the whole attack wears a graver physiogomy. This fact will occasionally render your diagnosis very doubtful. Physical signs can only tell the presence, not the nature, of the consolidation. I am satisfied that in many cases it will be impossible to decide until sufficient time has elapsed whether a given solidification of the apex is due to acute tuberculosis or to a slowly resolving pneumonia. Usually, however, the history of the attack, the child's inheritance, the condition of the lymphatic glands, the extent of the solidification, and the thermometric range will guide us to the truth. Ziemssen was the first to point out that in a lobar pneumonia, even of the apex, the thermometer registers a higher degree, and shows less fluctuation between morning and evening temperatures than in consolidation from tubercular deposit.

The difficulties are greater when the differentiation must be made in the lobular disease. Dr. Buchanan makes the statement in his Lettsomian Lectures that, "For anything that can be made out by the stethoscope, the thermometer, or the most careful clinical inquiry, it is absolutely impossible to say whether the lung signs are due to acute tuberculization or to lobular pneumonia."

2. As to the import and frequency of some of the symptoms. The chill which so frequently ushers in a pneumonia in the adult is rarely met with in the child, and if present only amounts to a sensation of chilliness. The nervous symptoms are much more pronounced in the child than in the adult. Very often a pneumonia, especially of the lobar form, is announced by a convulsion, and these cases are not necessarily marked by other cerebral disturbances, or do not always foretell the graver forms. The excitable nervous organizations of children render them peculiarly liable to these "nerve storms." In many cases, either with or without the initial convulsion, the nervous symptoms assume such prominence as to distract attention from the real seat of disease. Headache, vomiting, delirium, stupor, and convulsions, constitute a grouping of symptoms which will easily mislead a careless practitioner. It is important to bear in mind that cerebral symptoms are apt to predominate when the upper lobe is involved. While the rule is not absolute, an apex pneumonia rarely runs its course without the presence of more or less decided brain symptoms, and, for this reason, many authors designate this form as cerebral pneumonia. This peculiarity is well exemplified in the case before us—the initial convulsion, the stupor, the boring of the occiput into the pillow, and the muscular twitching are quite characteristic. A knowledge of the manner in which a pneumonia may simulate a meningitis will be enough to put you upon your guard. Occasionally you will be compelled to withhold, for a time, your diagnosis, but usually a careful exploration of the chest will lead to a correct interpretation of the symptoms.

The sputum does not possess the same diagnostic characters in the child as in the adult. Under five or six years of age, children rarely expectorate. Unless taught by the hard experience of a whooping-cough or chronic bronchitis, the sputum is coughed into the fauces and swallowed. When present it is not rusty and viscid, even in lobar pneumonia, but is light in color, thin, frothy, and less tenacious. In the catarrhal form, as, you know, the extruded matter is not an exudation from the blood, but is the product of cell proliferation commingled with the secretion of the mucous glands. Exudation of red blood-corpuscles rarely occurs in catarrhal inflammations, and as these form so large a proportion of infantile pneumonias, the absence of rusty sputa is easily explained.

Children with relatively the same extent of lung involved ordinarily suffer greater dyspnœa than adults. This is seen in the rapid breathing, the action of the auxiliary respiratory muscles, and the infra-mammary retraction of the thoracic walls, which attend upon comparatively mild grades of the disease. In a case of moderate severity the breathing rises as high as forty or fifty respirations per minute, while in the graver forms they may number eighty or ninety, and the pulse-respiration ratio will be correspondingly altered. Not infrequently, the rhythm of the respiratory acts is so changed that the pause comes after the inspiration instead of after the expiration.

There are three symptoms which possess much greater diagnostic value in the child than in the adult—the respiratory moan, the flapping of the nares, and the sulcus around the base of the chest. The latter tells unmistakably of the impeded entrance to air, and is usually indicative of capillary bronchitis, lobular pneumonia, or laryngeal stenosis. Although the expiratory moan is not, as it was formerly considered, pathognomonic of intra-thoracic disease, it does indicate, with tolerable correctness, a pleurisy or lobar pneumonia.

Another striking peculiarity of infantile pneumonias is the insidious manner in which they are frequently developed. We have already spoken of the closeness with which lobar pneumonia may simulate simple meningitis, and might with equal propriety draw attention to the similarity which often exists between chronic lobular pneumonia and tubercular meningitis. As thorough a clinician as Juergensen states that it is often impossible to determine with certainty whether a child suffering from catarrhal pneumonia has not at the same time a moderate crop of tubercles in the brain.

A sub-acute pneumonia not infrequently creeps on during the progress of an acute illness, especially an entero-colitis, and presents but few symptoms to indicate the dangerous complication.

Badly nourished, especially bottle-fed, babies will, without any acute disease, frequently suffer from passive congestion of the lungs or lobular collapse; due to the feebleness of the respiratory and circulatory movements, which will result in a form of catarrhal inflammation—hypostatic pneumonia—and yet be announced by very indefinite pulmonary symptoms.

An important therapeutic hint may be drawn from these facts. When a feeble or young infant is seriously ill with any acute disease, it is of great advantage to insist upon frequent changes of position, and even allowing it, at intervals, to rest upon its abdomen so as to obviate this tendency to hypostatic congestion.

3. As to physical signs.

Pneumonia in the child is recognized by the same physical signs as in the adult, and yet there are some important modifications, which, if ignored, will inevitably lead to mistaken diagnoses. It may, perhaps, be unnecessary to refresh your memories as to the peculiarities of the normal breathing of young children.

You know that in the forced breathing of infants, or in the ordinary respiration of those over two years of age, the normal vesicular murmur has a blowing or bronchial character, to which the name of "puerile" was given by Laennec. Therefore, breathing sounds, which are normal in the infant, would in the adult signify morbid changes in the parenchyma of the lung.

Percussion in the child normally elicits a more sonorous sound than in the adult, on account of the thinness of the chest walls, the smaller bulk of the lungs, and the ease with which the air in the primary bronchi and trachea is thrown into vibration.

Another point of undoubted clinical importance is that there is often a normal difference in the resonance of the apices of the child's chest, the opposite of that found in the adult. Dr. Buchanan has shown that, in healthy children under seven years of age, the left apex is quite commonly a little duller than the right.

Beyond doubt many practitioners are constantly misled by failing to appreciate the extent to which tension of the abdominal muscles may modify the results of physical exploration of the chest. The moment you attempt to percuss a child, it, voluntarily or involuntarily, employs what Vogel terms "abdominal pressure," whereby the abdominal viscera are forced upwards and encroach upon the thoracic cavity: on this account the line of dulness is different on opposite sides and is constantly changing on the same side of the thorax.

The liver, which is relatively very large in the child, may in this way cause dulness up to the spine of the scapula. To eliminate error from this source, it is essential that you continue your examination in one spot long enough to percuss at the moment of the deepest inspiration and the most complete expiration.

The crepitant râle—that fine, sharp crepitation which is almost pathognomonic of pneumonia in the adult, is rarely heard in children under three or five years of age; and when heard, it is a louder, coarser, moister râle, resembling in character crepitation redux or a fine subcrepitant râle.

Vocal fremitus, which has such diagnostic value in the adult, is less trustworthy in the child. Very often it is absent from both sides of the chest, and sometimes seems to be more marked upon the sound than upon the diseased side. When it is found *only* on the *diseased side* it, of course, becomes a valuable indication of solidified lung. The physical signs of consolidation are, as a rule, however, sufficiently marked in a croupous pneumonia affecting the youngest child to enable you with proper care to reach a correct diagnosis. But in the catarrhal form the physical signs are less distinct, excepting as they reveal the ever-present bronchitis, and upon them *alone* it would often be impossible to build up a diagnosis. The nature of lobular pneumonia offers a ready explanation of this fact. In the common form of the disease, the lung is studded with pneumonic patches, varying in size from a pea to a filbert, each consisting of one or more lobules separated from each other by a network of healthy crepitating lung tissue. If, as often happens, several contiguous lobules are involved so as to cause consolidation of a considerable area, the physical signs are very pronounced and unmistakable. Physical exploration alone, will only in exceptional cases enable you to decide, whether the solidification in a given case is due to simple collapse of lobules in the course of a capillary bronchitis or to pneumonic patches. The exceptional cases are when the signs fluctuate under examination or within short periods: for instance, dulness, and bronchial respiration, which would disappear after severe coughing, would positively indicate collapse. The diagnosis of a lobular pneumonia must therefore be largely made from the history and symptoms, reinforced or not by the physical evidences of consolidation.

If in the course of a simple bronchitis, the fever is suddenly increased, the cough becomes hacking and painful, the breathing more labored and the pulse-respiration ratio altered, the accession of a catarrhal pneumonia is very certain, and if now, in addition to the ordinary bronchial râles, you can detect localized dulness, tubular breathing, and other signs of solidification the chain of evidence is complete.

Catarrhal pneumonia is usually a bilateral disease, and a characteristic form for the solidified portion to take is that of a pyramidal strip extending two or three inches along each side of the spine, resembling in these respects simple lobular collapse. The thermometer renders invaluable aid in differentiating between capillary bronchitis and its sequelæ, catarrhal pneumonia and lobular collapse.

Capillary bronchitis is normally attended with only moderate febrile movement, the mercury fluctuating between 102° and 103° F. A sudden exacerbation of fever in the course of a bronchial catarrh, in which the thermometer registers 104° F. or higher, strongly suggests the onset of a pneumonia, while a sudden and marked fall of the mercury without a corresponding improvement in the other symptoms points to lobular collapse.

There are other peculiarities to which attention might be called, but we have probably said enough to convince you that infantile pneumonias are worthy of your earnest and conscientious study.

ORIGINAL ARTICLES.

THE INFLUENCE OF DOSE ON THE PHYSIOLOGICAL AND THERAPEUTICAL ACTION OF REMEDIES.

By ROBERTS BARTHOLOW, M.D., LL.D., Etc.,
Professor of Materia Medica and Therapeutics in Jefferson Medical College, Philadelphia.

In the study of physiological therapeutics, hitherto, not sufficient attention has been given to the subject of dose as a factor in the results. It is true, we find references here and there to the differences of action thus produced, but it is not given the fundamental importance properly belonging to it. With a view to my own instruction, I have, during the past year, been making some experimental studies in this direction. I attempted, more especially, to ascertain if there are any general formulæ, by the aid of which we can more successfully interpret the influence of quantity over qualitative actions. The

conclusions at which I arrived I put in the form of postulates, and the experimental and clinical evidence will follow.

Medicines acting on a part, a tissue, or an organ, can only increase or diminish the normal function, and cannot give to the function a new direction. For example, atropia increases the action of the heart and digitalis slows it, but neither can make the heart perform any other duty than its own.

The irritability—that is, the power to react to impressions—of a tissue or an organ, may be increased, or diminished, or destroyed, by medicines affecting function. Those medicines which increase irritability, must, if their effects continue, ultimately cause the same results as those lessening irritability from the beginning of their action—for it is a law that, if excitation of a function continue, the irritability of that function will ultimately become exhausted and its action cease. For example, strychnia increases the irritability of the reflex function, but if its effects continue, the reflex function after a time is exhausted and ceases.

I cannot too strongly insist on the importance of these propositions. The first one is simply an axiom. There is no remedy that creates new functions; not one that does more than increase, or lessen, or destroy function. There are remedies which cause morbid states; but these derange function—briefly, it may be, heighten the activity of particular organs, and ultimately destroy the power to functionate; yet they do not force the organs into new modes of activity. A careful survey of the whole field of remedies will only bring confirmation to this proposition, and I therefore pass on to the next.

The property of *irritability*—which I have defined to be the power to react to impressions—is possessed by all organs. When a motor nerve is irritated, the muscles to which it is distributed contract; when a sensory nerve is irritated, pain is caused; when a gland is irritated, its secretion is increased. It is no less true that persistent irritation, or stimulation, ultimately destroys the power to functionate—in other words, arrests function. The proofs of this are unanswerable. If a motor nerve is long irritated, the muscle first contracts, then tetanizes, and finally the nerve ceases to convey any impression, and the muscle relaxes or is paralyzed. If a sensory nerve is subjected to permanent irritation, pain is first produced, then numbness, and finally analgesia and anæsthesia result. If a gland is persistently stimulated, at first the normal secretion is increased in amount, then a pathological secretion is produced, and, finally, the gland strikes work entirely. The whole matter is resolved into the physical law—"*To every action there is an equal and opposite reaction.*"

The action of strychnia, which I have given as an example, is a striking illustration. If $\frac{1}{200}$th grain of strychnia be injected into a frog, the most characteristic tetanizing action follows. So acutely exalted is the reflex function, that the merest jar of the table will cause a general convulsion, the body being strongly rigid. Now, if into a frog of the same size, three grains of strychnia be injected, there may be no convulsions, or very transient slight spasms, but the whole body will be completely relaxed, and no irritation will cause muscular action. The explanation is obvious. Persistent irritation of the reflex and motor apparatus finally exhausts its irritability. A mere scratch, or a blow with the hammer, will destroy the magnetic property of a permanent magnet. There are remedies such as curara, conium, and the bromides, that do not stimulate, but depress the spinal functions from the onset of their action. It follows, then, that those remedies which first stimulate, and afterwards depress, act in the same way, if their effects continue, as do those remedies which depress from the outset.

Such different, and even opposing, action of the same remedy may result from dose. We have seen that in strychnia; it is true of many other remedies as well. We can only understand how such differences of action may occur by the light of the general principles which I have enunciated. Let me now offer some examples:

Quinia, one of the most important remedies, exhibits marked qualitative differences when administered in small and large doses. Does quinia increase or lessen the intracranial blood-supply? is a question which has been much discussed. Those who have given it in small doses—say from two to five grains every four hours—have seen the pulse increased in force and frequency, the conjunctivæ injected and retinal vessels full, and the activity of the functions, generally, raised above the usual level. They hold, therefore, that quinia increases the intracranial circulation. Experimental evidence has been adduced in support of the clinical. The cerebral meninges of animals exposed, the membranes are seen, under the action of quinia, to become more vascular, and the cephalehæmadynometer registers higher intracranial blood-pressure. The very opposite conditions are observed when large doses are administered—say a drachm or more. Then the pulse is slowed, the face grows pale, the retinal vessels become small, and there is much of that tinnitus and vertigo significant of cerebral anæmia. The experimental evidence is in harmony with the clinical: the cerebral meninges are pale, exsanguine, and the blood-pressure is low. Still more conclusive is that accidental experiment made on man: the quinia amaurosis—in which there is an extreme pallor of the optic disks, the vessels of the largest size appearing as minute threads, and large numbers of vessels usually in view have disappeared. Several examples of this kind have been observed by Knapp, and other ophthalmologists, after the exhibition of large doses of quinia.

The antipyretic effect of quinia is now universally admitted, but a strange misconception exists in the minds of some as to the quantity required. That the normal temperature is depressed by quinia, is true only of enormous doses and to a slight extent, but the rise of body-heat produced by active exercise and by the febrile process, is prevented by scruple to drachm doses, but not less will succeed. To give small doses at short, regular intervals, to stimulate the organic functions, and large doses to lessen their activity, is a strictly logical process. The mechanism is not difficult to comprehend,

aided by the formula I have given. We need not fall back on that convenient, but entirely hypothetical and supposititious heat-centre. There is chemical activity enough, surely, to account for heat-production; and for its regulation within normal limits the provision is complete. In the slowing of the blood-current, and diminished amount of blood distributed; in the lessened activity of the red blood-globules, and the consequent depression of the chemical actions and interchanges produced by large doses of quinia, we have a sufficient explanation of its influence over the heat-function.

Another striking example of the influence of quantity over qualitative actions is afforded us in *alcohol*. The difference in the action of small and large quantities, is the explanation of the alcohol paradox, in regard to which there has been almost endless discussion. That alcohol in moderate quantity stimulates the circulation and increases the activity of the organic functions, are facts now universally held. That alcohol in large quantity slows the heart, lowers the body-heat, and depresses the organic functions, are also facts demonstrated clinically and proved by experiment. Are these facts reconcilable? Alcohol may increase the action of the heart in two modes: by a reflex impression having its origin in an excitation of the nerve-endings in the stomach; or by its own oxidation or combustion in the organism, yielding up force which is utilized by the cardiac motor apparatus, or both modes of action may be concerned in the result. When large quantities are ingested, the stage of stimulation is brief, and is followed by depression, which is seen in the lessened cardiac action, in the lowered temperature, and in the suspension of the cerebral functions. The amount of alcohol is in excess of the oxidizing power of the organism, and the evolution of force, especially of nervous energy, is checked. Indeed, no medicinal agent more perfectly illustrates the physical law—to every action there is an equal reaction. From the therapeutical side, there is no fact of greater importance. Not long since I saw, in consultation, a case of diphtheria in an adult, in which the physician, a very competent man indeed, was trying to raise the pulse up from its low state. He poured in great doses of brandy, and was in despair that the pulse would not rise above 56, and the temperature would not attain a higher point than 98° Fah., the functions generally appearing torpid. I suggested that he substitute a moderate quantity of champagne for the large doses of spirit, and in a few hours a striking change was observed. Who does not recall within the range of his own experience similar examples? This very practical point is a tempting topic for further discussion, but I must pass on to other illustrations of the great law of dose. I will next examine the influence of quantity on the qualitative results of the administration of *opium*.

We often hear the statement that opium is more stimulant, and morphia more sedative. Although there is a small measure of truth in this formula, the difference lies rather in quantity. Opium may, I think, be justly regarded as the most powerful and sustained stimulant that we possess; at the same time it is the most efficient remedy against the first stage of the inflammatory process. The stimulating effect of opium is well exhibited in its antagonizing action of those remedies which cause death by failure of the heart, notably atropia, aconite, veratrum viride, etc., and in its preventing failure of the weak, dilated, or fatty heart. To obtain the stimulating effect of opium, all the world knows that it must be given in small and repeated doses. Of course, when the impressionability of the system has been reduced by the opium habit, the merely stimulating dose corresponds. Large doses slow the heart, raise the peripheral tension, and thus lessen the blood-supply to organs and tissues. These effects can be admirably shown by the sphygmograph, when properly adjusted. If a normal tracing is first taken, and then morphia injected subcutaneously, the instrument kept in position, obviously, the conditions being the same, the change in the tracing must represent the action of the drug. Tracings taken in this way exhibit very striking changes,[1] indicating the effect of morphia on the rate of pulsation, and on the tension of the vessel. There has been an enormous clinical experience, also, proving the power of opium in full doses to check inflammation by diminishing the blood-supply to the inflamed tissues. This mode of treatment has been carried to its utmost limits by Dr. Alonzo Clarke in the treatment of peritonitis—carried to the point of narcotism, with a reduction of the pulse to 40 per minute. There are two practical points which I should not fail to mention in connection with this treatment: 1. The utility of opium as a remedy for inflammation, is limited to the stage of congestion, and ceases when stasis and exudations occur. 2. Those large doses by which so decided a reduction in the pulse-rate is effected, will finally exhaust the organs which were at first stimulated. We should not here, as everywhere, fail to realize that fundamental physical maxim—to every action there is an equal and opposite reaction. No point in the whole circle of the effects of opium better illustrates this principle than the action on the intestinal tube. Opium in small doses stimulates the splanchnic—the inhibiting nerve for the intestine, as the pneumogastric is for the heart—and in large doses paralyzes it; hence it follows that in small doses opium constipates, and in large doses tends to relax. See how admirably the results of the physiological study illuminate and confirm empirical observations!

Digitalis affords us another capital illustration of these principles, and, from the practical point of view, their application has an importance that can hardly be overestimated. To confine my observations to the narrowest limits, I will only refer to the effects of digitalis on the heart, and its associated nervous apparatus. The ancient notion of the power of digitalis as a heart poison, has been quite supplanted by the modern notion of its power as a heart tonic. There was an element of truth in the ancient, as there is a mischievous fallacy in the modern, notion. Whilst the ancient theory limited the therapeutical applications of digitalis; in the

[1] Treatment of Diseases by the Hypodermatic Method; 4th edition, Philadelphia, 1882.

modern conception of its powers, the danger attending its action is too little regarded. Indeed, from the loose talk about digitalis, one would suppose it to be a heart tonic without limitations. Almost more completely than any other remedy it illustrates the difference between large and small doses; that whilst the former stimulate, the latter exhaust. In moderate medicinal doses it stimulates the pneumogastric and its terminal inhibiting ganglia, and the vaso-motor system. If the stimulation continue too long, or if the dose be too large, the irritability of these organs is exhausted; in other words, it paralyzes the organs which it first excited. When digitalis is given in a quantity to slow the heart decidedly, if the patient assume the erect posture, an extremely rapid and weak action is substituted. A most striking example, as showing the nature of its powers, is the fatal case of digitalis poisoning reported by Boehm. A girl died on the fifth day from paralysis of the heart, after taking a single large dose. The old idea of an accumulation of power and its sudden liberation in an energy that stops the heart, simply means the paralysis which follows overstimulation. In this sense, we may well be on our guard against the "cumulative effects" of digitalis. The practical conclusions to be deduced from these facts are of immense moment: (1) in the administration of digitalis as a cardiac tonic, the dose to be given is the minimum quantity necessary to produce the effect, and (2) this dose must not be continued so long as to endanger the working power of the motor apparatus. Here, I might, if the topic were not foreign to the purpose of this paper, indicate how the principle of antagonism is utilized in the conjoint administration of remedies that oppose the tendency to cardiac depression without interfering with the curative action.

Pilocarpine, one of the recent and valuable contributions to our materia medica, illustrates in a most interesting manner the influence of dose. The first effect of this remedy is to excite: the heart quickens its movements, the face becomes flushed, and the cutaneous vessels are so filled that the surface grows warm; then the excitement of the salivary and sudoriparous glands occurs, and a profuse secretion is poured out. Just in proportion to the excitement is the after-depression, in which the temperature falls, the heart languishes, and the organic functions in general become feeble. It is now well known that any dose above that necessary merely to cause the desired activity in the salivary and sudoriparous glands, may produce a dangerous, even a fatal, depression. In the action of this remedy, the physical law has a most exact exemplification—for to the action there is an equal and opposite reaction.

I might thus continue multiplying examples of the influence of quantity over qualitative actions, all drawn from the organic materia medica, and from the group of agents affecting the nervous system, chiefly. It is desirable, however, to seek further illustrations of the same truths from the mineral kingdom, and from remedies having different actions than those involving the nervous system. The group called *tonic* will afford us some excellent examples. There is no remedy more used, also more abused, than iron. There are but two ultimate purposes subserved by its use: 1, to stimulate the primary assimilation; 2, to promote constructive metamorphosis, or the metabolism of tissue formation. The purpose should determine the dose, and the quantity given will determine the character of the result. When iron is used to stimulate the function of digestion, as a large surface is to be acted on, large doses must be administered. It is perfectly obvious that if the digestive apparatus be continually goaded to increased effort for too great a length of time, a disastrous depression must presently follow. In this fact we have an illustration of the old rule, to suspend occasionally the administration of iron when a long course is carried on, and give a purgative. When the purpose in view is to correct anæmia, to promote constructive metamorphosis, and to energize the organic functions generally, again the dose is determined by the object. Is a recent and powerful but temporary depression to be overcome? the dose must be adequate. Does a more lasting condition of depression in the function of constructive metamorphosis exist, the dose must be one which can be administered for a sufficient length of time without causing an opposing reaction.

Not in a less degree are these principles applicable to the administration of "bitters," and other vegetable tonics. How often do we observe full doses of these remedies administered without maintaining the good effect at first obtained! The first genial excitation of the digestive apparatus ceases under a persistent repetition of the impression. Large doses for a temporary purpose, small doses for lengthened use, should be the formula for our guidance, with the limitation always kept in mind that too persistent and prolonged stimulation of any organ must result in after-debility.

When we extend our inquiry into the class of remedies whose office it is to cause some kind of an evacuation from the body, we discover some interesting facts regarding the influence of quantity. Evacuants have a dual action. There is a preliminary impression on the organ centre or apparatus —it may be sedative; it may be irritative—and is followed by the action of expulsion and increased excretion. By a small or minute dose we obtain the former; by a large dose, we procure the latter. *Calomel* and *ipecacuanha* are good representatives of the class inducing this double action. It is a fact of daily observation that such small doses of calomel as the $\frac{1}{20}$ gr. to $\frac{1}{6}$ of a grain exert a remarkable sedative effect on the stomach and upper intestine. For example, vomiting may be thus arrested when other means fail. For my part, I am unable to subscribe to the doctrine that one grain of the centesimal dilution, or $\frac{1}{100}$ of a grain of calomel, will have any obvious effect, unless given excessively often, say every ten or fifteen minutes. I place the minimum at $\frac{1}{20}$ of a grain, with the expression of my conviction that there is little utility in going below $\frac{1}{12}$ of a grain. Whilst in cases of duodenal catarrh and catarrhal jaundice, considerable doses of calomel irritate not only the mucous membrane,

but the hepatic cells, small doses have an undeniable good effect in allaying irritation.

Apropos of the action on the liver, permit me to digress so far as to say that the liver serves to excrete various mineral poisons, which hence tend to accumulate in the hepatic cells, to irritate them, and to impair their functions. The salts of mercury, silver, gold, etc., may be mentioned. These remedies in minute quantity, stimulating by their presence to the slightest extent, promote the activity, the nutrition, and the functional power of the organ. Frerichs mentions the discovery by him of a gall-stone having for its nucleus a globule of mercury.

Turning now to *ipecacuanha*, we find that this has in small doses a sedative effect—a stimulating or irritant action in large doses. Small doses will sometimes arrest vomiting of nervous or reflex origin. The homœopathists have made much of this, and claim that to admit it is to admit the truth of their ridiculous dogma of similars. The facts are so susceptible of a truly scientific explanation, that there is no need to have any humbug mysticism over them. The so-called *tolerance*, produced by the repeated use of large doses, means the diminution of irritability, the inevitable result of over or continued stimulation.

Calomel and ipecacuanha are not the only evacuants having the dual action to which I have alluded; all possess these properties to a greater or less extent. *Colocynth* is an excellent illustration of the same truth. Whilst calomel in small quantity allays irritation of the upper digestive tube, colocynth in minute doses is sedative to the lower—to the ilium especially. As calomel in the minimum dose will allay vomiting when other remedies fail, so colocynth tincture, in a small dose, will stop intestinal pain and irritation when other remedies are unsuccessful.

Finally, the action of diuretics illustrates the influence of dose on physiological and therapeutical action. Any remedy may serve to point the moral, but, for several reasons, cantharides is to be preferred. The stimulating, irritating quality of cantharides in full medicinal doses everybody knows, but in minute quantity it has distinct sedative effects on the urinary apparatus not so well known. The evidence is clinical. In some cases of irritable bladder, for example, it has a remarkably quieting effect when exhibited in small doses. In chronic catarrh of the genito-urinary tract, the same effect is produced by the same mode of administration.

Thus throughout the whole field of pharmacology, we find that qualitative results are largely influenced and determined by the quantity administered. In fact, so certainly true is this relation, that in the statement of physiological actions and therapeutical results, the quantity of the remedy administered is an essential element, without reference to which exactness is unattainable.

A CASE OF CHRONIC OTORRHŒA FOLLOWING SCARLATINA.

MASTOID DISEASE; CARIES OF THE BODY OF THE THIRD CERVICAL VERTEBRA; RETRO-PHARYNGEAL ABSCESS; RECOVERY.

(*Read before the Union Medical Society of Northern Michigan, May 21, 1882.*)

BY F. GUNDRUM, M.D.,
OF IONIA, MICH.

On February 28, I was called to see Miss W.; age twenty-five; native born.

History. — Parents of this patient are strong, healthy English people. The patient possessed good health until eight years ago, being large and strong for her age. Eight years ago she contracted scarlatina, of which she was very ill. She finally recovered from the acute attack, but with shattered health and a discharge from both ears. This ceased in the left ear about eighteen months ago, but has continued in the right up to the present. Hearing has become very indistinct in both ears, so much so that without artificial aid she is scarcely able to hear the loudest conversation. Since about a year and a half ago, a pain has developed in the right auditory meatus and region of the mastoid, laterally extending into the base of the skull and cervical region. This has gradually increased in severity, until at times it is excruciating. A jar, while walking or riding, for the last two or three months, has produced such severe pain in the base of the cranium and upper cervical region that riding in a vehicle has been entirely abandoned, while walking is performed with extreme caution. The movements of the head have gradually become less on account of the pain produced, and recently it has become fixed. For several months past she has had a constant profuse discharge from the pharynx of a tenacious mucus, which she hawks up every few moments. Deglutition has become painful. The discharge from the right ear has become very offensive and dark in color. Her general health has grown from bad to worse. She has gradually wasted away, and, although not tested by the scales, she thinks she has lost one-fourth of her weight. Her speech has become muffled, indistinct, and attended with pain.

She has received treatment for years, both local and general, but without any material benefit.

Present Condition.—The patient is a tall brunette; very intelligent. She has an ample osseous frame; all adipose tissue gone.

It is noticed, while the patient is walking around in the room, that she does so very carefully, avoiding all jars, and bending the head neither to the right nor left. Whatever the patient does, she scrupulously avoids jarring the body or moving the head. She can not be induced to "come down on her heels" with any force. The right ear, as noted above, has coming from it a dark, offensive purulent discharge. The tympani of both ears are gone, together with the ossicles. In the left ear cicatrization has taken place; in the right there are numerous granulations in the cavity of the tympanum. The right mastoid process seems to be slightly swollen, which seems to be due to a slightly congested con-

dition of the overlying soft parts. Firm pressure gives slight pain, but percussion elicits nothing abnormal. In the neck, on the right side, commencing about three-quarters of an inch below the mastoid, and continuing down the neck for four inches or more, being most distinct just in front of the sterno-cleido-mastoid muscle, there is a marked diffuse swelling. The overlying skin is normal in color and, seemingly, in temperature. It is painless upon deep pressure. It is boggy, but fluctuation could not be made out with certainty. The muscles controlling the movements of the head are abnormally rigid, which is increased when any attempt is made to move the head. None of the cervical vertebræ show any undue prominence, but pressure of the spinous process of the third and fourth produces severe pain in the right side of the neck and right base of skull.

Pressure on top of the head, directed perpendicularly, gives severe pain, while any manœuvre to rotate it is resisted. When the head is raised by placing one hand under the chin and the other under the occiput immediate relief is obtained, and then slight movements of the head can be made without the least pain. The posterior pharyngeal wall is covered with a tenacious mucus, and seems to be pushed forward, lying against the relaxed soft palate. This forward displacement struck me with great force (it is the first case I ever saw), and aroused my suspicions at once. Having patient open her mouth as wide as possible, I passed my finger against the posterior pharyngeal wall, when I got distinct fluctuation—it was deep, but distinct. To confirm my conviction, I passed an aspirating needle and obtained nearly four ounces of thick, tenacious pus. The pharynx assumed a normal shape, the wall receding to its former position. To our great surprise, when we had finished the aspiration, it was noticed that the swelling in the neck had all subsided. The aspiration afforded our patient great relief. Her speech became nearly natural and painless. Deglutition was performed with ease and comfort. The patient's general condition is bad in the extreme. She looks sallow, emaciated, and careworn. She has no appetite, and if she ever feels like eating anything, the pain deglutition produces almost gives her the horrors. She sweats at night. Sleep is almost unknown, from the pain in the neck and the constant accumulation of mucus in the throat. The temperature is 102°, and the pulse 116.

The patient was ordered syrup of hypophosphites of quinia, iron, lime and strychnia, cod-liver oil, old stock ale, daily bathing, and as much air and sunshine as the weather would permit.

March 9.—The patient has improved but slightly. She could not retain the cod-liver oil in any form. The temperature has ranged between 100° and 103°; pulse 100 to 120. The post-pharyngeal abscess has refilled. The soft tissues over the right mastoid process seem to be more swollen than at my last visit. Mastoid disease had been strongly suspected by the lady's brother, Dr. C. W. Wooldridge, and having good reasons to share his supicions, I determined to open the mastoid and see. Accordingly, assisted by Dr. S. V. Romig (who gave the anæsthetic and assisted), I made the usual incision through the soft structures, and by aid of Sayres' periosteal knife, raised, after dividing it, some of the periosteum. After laying bare a portion of the process, I discovered a small opening in it. Unmistakable evidences of ulceration were present. This opening was enlarged, the bony tissue being very friable and breaking down easily, until a free opening was made. The process bled freely. No loose bone could be detected. The mastoid showed unmistakable evidence of a protracted inflammation and ulceration. Quite a quantity of the brittle, inflamed cancellous structure was removed—scraped out—considering it better out than in.

With a hope, if possible, of finding a communication between the mastoid and abscess in the neck, I made every attempt with probe and warm carbolized water and syringe to find it, but in vain. After hemorrhage had ceased, the mastoid was thoroughly cleansed with a five per cent. solution of carbolic acid, a drainage tube inserted, and the wound closed. A two and a half per cent. solution was prepared to be used once in two hours through drain-tube. Morphia in sufficient doses was ordered. The patient rallied well from the operation.

24th.—The patient has entirely recovered from the operation, and is up and around. Her general health seems to be slightly improved. The pulse and temperature are about the same; pain in the mastoid gone, but as much pain as ever in the cervical region. There is a sweet, purulent discharge from the drain-tube. The post-pharyngeal abscess having filled up again, it was aspirated with same results as before. The swelling in the neck, which had reappeared, disappeared again; the drain-tube was removed and left out; a solution of carbolic acid and chloride of zinc was prepared, and mastoid to be washed out with it. The following pill was ordered:

℞. Iron by hydrogen,	ʒj.
Quin. sulph.	gr. xlviij.
Ex nux vomic.	gr. vj.
Hypophosphite of lime,	ʒj.

M.—Make into 24 pills; 1 three times a day, after meals.

I had made up my mind that there was disease of the third or fourth cervical vertebra; which one I could not positively say, as pressure on both their spines produced pain, but more especially on the third; and as no projection had as yet taken place, to prevent a deformity was the great desideratum. I operated on mastoid before applying a jacket, so that patient would not be compelled to keep the bed with a jacket and jury-mast; so as soon as the patient got in tolerable shape, eleven days after the operation, I put on the jacket.

On the 20th of March, assisted by Dr. Wooldridge, I applied a plaster-of-Paris jacket and jury-mast. I wanted to save the father the expense of a skin-fitting shirt, and told him to buy an all-wool undershirt from a dry goods store, and have the mother fit it accurately. After reaching the house, nine miles in the country, it was found that the shirt

fitted "like a nigger's shirt on a bean-pole" (Sayre). It had to be made over, and by the time we got the shirt fitted, our poor patient was tired out. I advise all who ever expect to put on a plaster jacket to have a skin-fitting shirt made to order. It is the first time that I ever tried this economic plan; it shall be the last. After fitting the patient as well as possible, I found her so emaciated that it became necessary not only to pad around bony prominences, but to envelop the whole trunk in a layer of cotton, This was the most emaciated subject on whom I ever saw a jacket applied. Having only one assistant, the time occupied was somewhat longer than usual, during which time our patient became very faint. Had she not been an iron-willed girl, our efforts must have been a failure. After the jacket had set, and the patient had rested, her head was suspended, which relieved all pain in the neck. A complication soon came on which I never saw before. The articulations in the lower maxilla became very sore, and the jaw became almost stiff; no solid food of any kind could be taken; mastication was entirely suspended, although the pressure was varied from time to time. (The patient, since the application of the plaster, was almost under the entire care of her brother; I was consulted occasionally.) The father's ingenuity came to her relief. He took a small piece of iron, fastened it to the jury-mast, where it passed horizontally over the head, so as to project beyond the face several inches; to this he fastened a strap, and the other end to chin-piece. This remedied the difficulty entirely. Since the application of the jacket the patient has steadily improved; she has nearly regained her former weight and strength. The mastoid has closed up; the ear ceased to discharge; the post-pharyngeal abscess has not refilled. All pain in neck and mastoid process has disappeared, and Dr. Wooldridge, as well as myself, consider the patient entirely cured.

P. S.—She wears the jacket only during the day, having made it into a corset, more for a protection than anything else.

LITHOLAPAXY IN A WOMAN.

By EDWARD T. CASWELL, M.D.,
SURGEON TO THE RHODE ISLAND HOSPITAL, PROVIDENCE, R. I.

Since the introduction of Dr. Bigelow's brilliant procedure for the removal of stone in the bladder, allusion has been made by several writers to its adaptability to women. As I have seen no notice of any case in which the operation has been performed upon the female, I venture to report one. The procedure presents great advantages over the methods previously in use, which may be summed up as removal of the entire stone through the dilated urethra, or by cystotomy. By the first of these methods a greater or less degree of incontinence is likely to ensue, and the second involves the closing of the wound in the bladder, with the possible risks of a vesico-vaginal fistula. In comparison with either of these, the operation of lithotapaxy is far preferable. The facility of execution, and the entire freedom from after-effects, are sufficient to commend it at once to the surgeon.

This case was the ninth of my series, the rest of course being in males, and the difference between the operation in the two sexes was much greater than I had imagined. The following is the record:

Mrs. L., aged 51, English, has been in this country but six months. Nine years ago she passed the first stone, and several at different times since, all of them small. The last was passed in January, 1880. She has suffered from the present stone for four months, and complains of pain, frequent micturition, with blood and thick mucous discharge in the urine. The pain, while in my office at a preliminary visit, seemed excruciating. The stone was of course easily felt both by the sound in the bladder and by the finger in the vagina. . Having etherized her, I dilated the urethra by the passage of conical steel sounds up to 29 Fr. A modified Thompson's fenestrated lithotrite, and one after a model of Dr. Keyes, were both used. The fragments were evacuated through a straight tube, 28 Fr., which passed with the utmost ease. The only drop of blood visible in the operation was at the meatus after the introduction of the No. 29 tube in dilatation. The fragments weighed when dried 100 grains, and the character of the stone was phosphatic. Four days after the operation, Dr. Kemp, of Lonsdale, whose patient she was, wrote: "She has not had an unfavorable symptom, and would be up and about her work but for a slight attack of diarrhœa." The operation occupied less than forty minutes.

In looking back at it I am inclined to think that the patient but for the ether might have left the table and resumed her calling. Certainly, the advantages over the other methods are evident, and I believe that even smaller stones would be much more easily removed by this method than by any other.

A CASE OF ANEURISM OF THE ARCH OF THE AORTA, WITH MARKED SYMPTOMS DEPENDENT UPON THE ANATOMICAL SITUATION OF THE TUMOR.

By JNO. B. DEAVER, M.D.,
DEMONSTRATOR OF OSTEOLOGY AND SYNDESMOLOGY, UNIVERSITY OF PENNSYLVANIA; SURGEON TO THE OUT-PATIENT DEPARTMENT OF CHILDREN'S HOSPITAL.

Mr. L., whose age is 49, occupation a paper-hanger, presents some form of mediastinal growth, the most likely, I think, to be aneurism of the arch of the aorta. When learning his history, I find he had acquired syphilis, which beyond doubt is one of the most fertile causes of aneurism. My idea in reporting this case is not on account of its medical interest alone, but more particularly from an anatomical point of view, as it serves to demonstrate how important it is for the medical man as well as the surgeon to have a thorough knowledge of topographical or regional anatomy, and particularly of visceral anatomy.

The diagnosis of mediastinal tumor has been made from the symptoms resulting from the pressure of the tissues surrounding the arch of the aorta. How can we tell when these surrounding tissues are pressed upon? First, by a knowledge of the relational anatomy of the parts, and, secondly, by a knowledge of their functions. In calling attention to the signs, symptoms, and their

most probable cause, I will mention the most prominent; first, the great amount of dyspnœa, the great distress in breathing when the patient attempts to lie down (orthopnœa), also while in this position the distention of the veins of the head, neck, and upper extremities, especially those of the left side, the harsh blowing breathing heard over the left chest posteriorly, the dry, hacking cough, which is made much worse when the patient attempts to recline, the œdema of left upper extremity, left side of head and neck, the œdema of feet and legs, the enlargement of the liver, the characteristic blowing sound heard over the course of the arch which is transmitted down the aorta and up into the carotids, the impulse communicated to the hand by making pressure on the sternum over the position of the arch. By passing over the supra-sternal fossa, pulsation of the arch is readily felt.

The dyspnœa is due, I think, to the enlarged and displaced heart. The position of the normal heart is in the middle mediastinal cavity, the greater part of it to the left of the median line of the sternum; its axis is obliquely from right to left; the base corresponds to the line of junction of the third costal cartilage with the sternum, and apex to the space between the fifth and sixth ribs, two inches below the nipple and one inch to its sternal side. In the case before us the axis of the heart is changed, instead of running obliquely from right to left, it runs directly downwards. The apex is at the bottom of the sternum, in the epigastrium; the base corresponds to the line of junction of the fourth costal cartilage with the sternum. The displacement, I consider, is due to the enlarged transverse portion of the arch of the aorta. To ascertain the cause of the suffocation when this man attempts to lie down, let us follow the course of the arch from its commencement and see what important tissues are in relation to it. The arch consists of three portions, an ascending, transverse, and descending. The first or ascending portion commences on the left of the sternum, behind the pulmonary artery, on a line with the junction of the third costal cartilage with sternum, the line corresponding to the base of the heart, from which point it proceeds upwards and outwards, to the right side, in the direction of the axis of the heart, till it reaches the lower part of the first intercostal space or the upper border of the second costal cartilage, when it turns to the left, becoming the second or transverse portion; this portion passes from right to left and from before backwards, about one inch behind sternum and one inch below upper border of the sternum, till it reaches the left side of the second dorsal vertebra, when it turns downwards to become the descending portion, ending at the lower border of the body of the fourth dorsal vertebra. Passing above the transverse portion of the arch from the left to the right, is the left brachio-cephalic or innominate vein, the vessel that returns the blood from the left side of the head and the neck, and the left upper extremity; passing over it is the left phrenic and pneumogastric nerves, the latter being the one that interests us in this particular case; beneath it is the bifurcation of the pulmonary artery and the left bronchus, and behind the trachea, œsophagus, thoracic duct, and the deep cardiac plexus of nerves. From the relation the transverse portion of the arch of the aorta bears to the trachea, it is very readily seen that when the patient lies down, that this portion of the vessel, if enlarged, would press upon the trachea, as the trachea bifurcates opposite the third dorsal vertebra, and the artery passes in front of the second dorsal vertebra, giving rise to orthopnœa, which is a marked symptom in this case.

Again looking at the relation this portion of the vessel holds to the left innominate vein, we have the explanation for the great distention of the veins of the left side of the head and neck, and the left upper extremity when the patient is in the horizontal position, and also for the œdema of these parts, for beyond question there is slight pressure constantly upon this vein. Within the concavity of the arch of the aorta is the left bronchus; this is pressed upon, the result of which we hear harsh and blowing breathing over the left chest posteriorly. The dry, hacking cough is purely laryngeal, there being no pulmonary trouble other than slight passive congestion at the bases of the lungs, and is caused by the pressure of the tumor upon the left recurrent laryngeal nerve. The recurrent laryngeal nerves, two in number, are branches of the pneumogastrics; the left recurrent nerve winds round the arch of the aorta, the right around the subclavian artery, first part, after which they ascend the neck in the groove between the trachea and the œsophagus to enter the larynx behind the crico-thyroid articulation; therefore it is very evident that enlargement of the transverse portion of the arch of the aorta would press upon the left recurrent laryngeal nerve, resulting in irritation of the parts supplied by this nerve, namely, the mucous membrane of the larynx. The enlargement of the liver and the œdema of the feet are due to the obstruction to the return circulation, a portion of which is effected by the pressure of the heart against the ascending vena cava.

1610 VINE STREET.

HOSPITAL NOTES.

GERMAN HOSPITAL, PHILADELPHIA.

(Service of DR. J. M. BARTON.)

LIGATION OF FEMORAL ARTERY FOR POPLITEAL ANEURISM.

(Reported by L. D. BROSE, M.D., Ph.D., Resident Physician.)

H. M., German, æt. thirty-five, married, laborer, gives history of primary syphilis, acquired in 1866. Last December he first noticed a swelling at the back of the right knee; this swelling slowly increased in size, throbbed, and was very painful; the patient, thinking he had rheumatism, on February 2 presented himself in the out-department of the German Hospital, suffering very much from an inflamed condition of this enlargement, so that he was obliged to use crutches. The outline of the swelling was much obscured by the existing cellulitis; but a marked expansive pulsation could be detected, occurring with the systole of the heart. The patient was advised to remain at home on his back until February 24, when he was admitted into the German Hospital. The aneurism could now be made out distinctly of a fusiform character, and measuring some

five inches in length. On auscultation, a distinct, rasping bruit could be heard occurring with the heart's systole, and transmitted a short distance below the tumor. The foot was swollen, very œdematous, and the pulsation in the posterior tibial, behind the internal malleolus, was hardly perceptible. Forced flexion of the knee failed in any manner to control the pulsation. The patient was placed in bed, and put on the tincture of veratrum viride, one drop every four hours. This treatment reduced the pulse rate from 104 to 84 beats per minute, but did not diminish the size of the enlargement.

February 27.—Dr. Barton resorted to compression of the femoral artery by means of bags of shot placed on the vessel and retained in position by a number of convalescing patients, who changed watch every hour. Twenty-two pounds were found after trial to be the smallest weight that would control the aneurismal pulsation. The compression was kept up for four hours, at the end of which time it was discontinued, owing to the incompetency of the assistants, who failed to retain the bags in position, thus allowing every few minutes a return of the circulation through the aneurism. Morphia, during this time, was freely administered to relieve the patient's sufferings. At the time of abandonment of the pressure, the patient was much exhausted and prostrated. The surface temperature of the limb, being taken every half hour, gradually fell from 97° to 94.4° at the time of our removing the shot. The axillary temperature on the morning of the compression was 99.1°, and the evening temperature 99.4°, the pulse also increasing somewhat in frequency. No perceptible impression was made on the tumor, and, on *March 1*, Dr. Barton again suggested a trial of shot compression, choosing as assistants Dr. Raab, the medical resident, the surgical nurse, a very intelligent man, and myself. The shot was increased to twenty-five pounds, and from 1.30 P.M. until 6.30 P.M. not a single pulsation went through the aneurism. The compression was kept up until 8.30 P.M., with almost equal success, when, no impression having been made on the tumor, it was discontinued, leaving the subject much prostrated and exhausted. Morphia, during this time, was again freely administered, and the patient encouraged to keep on with the treatment. The surface temperature was taken every hour; at two o'clock it registered 96.4°, and then gradually fell to 93.6° at five o'clock, and reached 92.3° at six o'clock. After this hour, the temperature rose, owing to several pulsations going through the aneurism, until at 8.30 the thermometer registered 95° Fahr. The axillary temperature on the morning of the compression was 100.2°, and the evening temperature 102.2°. The tumor continued increasing in size, now reaching some six inches in length, and at a consultation of the surgical staff it was decided advisable to ligate the femoral artery in the apex of Scarpa's triangle, under the Sartorius muscle. The patient was now put on nourishing diet, and prepared for the operation, which was performed *March 14*, Dr. Barton using the animal ligature and thorough antiseptic precautions. In making the incision, one small superficial vein was severed and secured by a silk ligature. The wound was brought together by a silver wire, reinforced by adhesive strips, and the patient returned to his bed with the leg carefully wrapped up in cotton batting. The patient came from under the influence of the anæsthetic, and was doing well, until between seven and eight o'clock, when I was called to allay an attack of vomiting. Examining the wound, I found it distended with blood; some five ounces had escaped, which appeared venous in character. The retching and vomiting being allayed, the bleeding discontinued of its own accord. The surface thermometer registered a temperature of 92.6° seven hours after the operation, and the axillary temperature was 97.2°. Next morning the clot in the wound was found to be very firm and much diminished in size, so that it was decided best not to open the wound, but trust to its reabsorption. During the day, the surface temperature ranged from 96° to 96.6°, the axillary temperature from 100° to 101°. The next two days the clot remained stationary, but on the third day it showed evidences of breaking down, the wound commenced discharging pus, and the surface temperature rising from 98° to 99.5°, with a corresponding rise in the axillary temperature from 100° to 102.5°. On the fifth day succeeding the operation, cellulitis manifested itself, the thigh becoming red, swollen, and much lymph being deposited around the seat of ligature. The lowest stitch in the wound being removed, a large amount of pus and broken-down *débris* of the clot escaped. Poultices were applied over the wound, dispelling the cellulitis and establishing a free flow of pus. From this date until complete closure of the wound the surface and axillary temperature gradually fell to normal, the patient making an excellent recovery, and was discharged from the house *April 22.*

The blood clot and the resulting pus deposits probably occupied a cavity entirely superficial to the artery. No portion of the ligature has been seen since its application, though the discharges were carefully examined for this purpose.

May 26.—The patient reported himself in the outdepartment, walking without artificial aid, the tumor having almost completely disappeared, and the lymph around the seat of ligature having been entirely reabsorbed. Since the moment of application of the ligature there has been no return of pulsation in the aneurism, but the pulsation of the posterior tibial, behind the internal malleolus, can not be detected in the operated limb.

VIENNA GENERAL HOSPITAL.

(Service of Prof. Bamberger.)

A CASE OF LEUKÆMIA.

(Specially reported for The Medical News.)

The patient, forty-nine years old, moderately thin, has suffered for a long time from cough and severe dyspnœa, is deaf in both ears, and gives as the cause of his sickness residence in a damp dwelling. The sick man lies in his bed in an apathetic condition, the red hue of his cheeks contrasting strikingly with the earthy color of the remaining portions of his body.

Examination gives the following condition: Tongue, coated; tonsils greatly enlarged; the mouths of the follicular glands covered with a caseous mass. The radial artery has undergone atheromatous change, is hard, firm, and tortuous. Large masses of lymphatic glands are found upon the neck, which are swollen, movable, resistent, but not painful. The axillary and inguinal glands, as well as those lying under Poupart's ligament, and generally termed Rosenmüller's glands, exhibit a similar condition. The ear-drum, in consequence of previous otitis media, is perforated upon both sides. The lungs are perfectly normal, as also temperature and urine. Heart and liver somewhat elevated. Area of cardiac dulness is increased in breadth. The spleen exhibits a particularly striking change; this organ has reached a size from seven to eight times its normal volume, and its inner, sharp, indented border can be distinctly palpated, while its lower, rounded border extends far beyond the left hypochondrium. That this resistent tumor, which has displaced downwards the lower portion of the abdominal contents, is the spleen, is proved by the fact that its motions are synchronous with respiration.

A drop of blood removed from the finger by the prick of a needle shows, under the microscope, an astonishing increase in the number of colorless blood-corpuscles. The white blood-corpuscles, finely granular, and differing in size, about equal the number of red corpuscles. It is plain from this cursory glance at the case that we are dealing with a case of leukæmia.

A moderate increase of the colorless elements of the blood occurs in a number of most diverse diseases, without causing important troubles. Intermittent fever, typhus, the puerperal process, alcoholismus, carcinomatous dyscrasiæ exhibit a relative increase in the white corpuscles. In such blood, acetic acid, formic acid, xanthine, and similar chemico-pathological substances are usually found. According to the locality of the formation of the white blood-corpuscle, it is customary to differentiate between a splenic, lymphatic, and myelogenic leukæmia. These different forms of the same general process occur in point of frequency in the order of their enumeration. In the majority of cases the first two forms are combined, but all three forms are united in our patient; for when we examine the bony system, although we find the bones of the cranium and of the extremities in normal condition, yet the sternum and single ribs are sensitive to very moderate pressure. Experience, moreover, has taught us that these are the bones generally affected in myelogenic leukæmia, and that it is very seldom that the long cylindrical bones are concerned in the production of white corpuscles.

The etiology of the affection is in most cases, as in this, very obscure, yet the fever dyscrasia seems to favor the origin of leukæmia. It is not at all necessary that leukæmic individuals should appear pale and anæmic; it occurs very frequently that their disease cannot be guessed at first blush. Patients complain most of dyspnœa, without there being any abnormality of the air passages or of the thorax demonstrable. This dyspnœa is usually explained by the diminution in number of red blood-corpuscles, which furnish to the system the necessary quantity of oxygen. This explanation is insufficient, because the paroxysmal nature of the attacks of dyspnœa in leukæmic individuals remains still obscure. Patients frequently suffer from œdema and continuous bleedings from the most different mucous membranes in this affection.

In the so-called pseudo-leukæmia we find, in fact, similar appearances. We find extensive swelling of lymphatic glands and enlargement of the spleen, but the colorless elements of the blood are not increased; consequently, a positive, differential diagnosis can only be made by the aid of the microscope.

Prognosis is unfavorable, perfect recovery has never been observed. Lethal result follows in consequence of inflammation of the respiratory organs, or of exhaustive hemorrhage and collapse.

Treatment remains for future discovery. The usual preparations of iron and iodoform, alteratives, such as arsenic, are altogether useless. Arsenic in the form of Fowler's solution is only useful in pseudo-leukæmia.

MEDICAL PROGRESS.

Two New Antiseptics.—M. G. le Bon has just presented to the Academy of Sciences two new and very effective antiseptics, the glyceroborate of calcium and the glyceroborate of sodium. Both of these compounds have the advantages of being very soluble, destitute of odor, and free from all toxic action. When exposed to the air they both deliquesce with great rapidity, absorbing from the air an equivalent weight of moisture. Both alcohol and water dissolve twice their own weight of these salts. They are powerful antiseptic agents even in very dilute solution; the most effective in a therapeutic point of view appears to be the calcic salt. It is absolutely innocuous, and it can be applied in strong solution to so delicate an organ as the eye without bad results. In a hygienic sense both can be employed with advantage as disinfectants and as preservers of meat and other alimentary products. M. le Bon has transmitted meat simply coated with a varnish of the glyceroborate to La Plata, and it has arrived in a perfectly fresh and sound condition. He thinks both salts will prove very useful as antiseptics in Lister's mode of dressing wounds.—*Lancet*, August 5, 1882.

Aphonia of Singers and Speakers.—For this affection Dr. Corson (*Revue Méd.*, April 12, 1882) recommends the patient to put a small piece of borax (two or three grains) into the mouth and let it dissolve slowly. An abundant secretion of saliva follows. Speakers and singers about to make an unusual effort should the night before take a glass of sugared water containing two drachms of potassium nitrate (saltpetre) in order to induce free perspiration. In similar circumstances this gargle may also be used:

℞.—Barley water, six ounces.
Alum, one or two drachms.
Honey, half an ounce.

Mix, and use as a gargle.

Or, again, an infusion of jaborandi, made by putting two scruples of the leaves in a small cup of boiling water, may be drunk in the morning before getting up. The free sweating is said very quickly to restore the strength of the voice.—*Practitioner*, August, 1882.

The Composition of the Urine in a Case of Cancer of the Liver.—Dr. V. C. Vaughan and Harriet C. Beringer give the following peculiarities observed in an analysis of the urine in a case of hepatic cancer:

1. The small amount of urine was due to obstructed circulation.

2. Urine in cancer of the liver deposits urates colored more or less of a red, and this color becomes darker on exposure to the air.

3. The formation of bile pigments continues even in structural diseases of the liver, which involve nearly the whole of the gland substance.

4. The formation of bile acid is arrested in the latter stages of cancer of the liver.

5. In this formation of bile the functional activity of the liver is concentrated for the most part upon the elaboration of bile acid.

6. Taurin and glycin are formed in the body even when the greater part of the liver is destroyed by abnormal growth.

7. Unoxidized sulphur (partly or wholly in the form of taurin) is present in the urine in large amount.

8. Their experiments indicate the two-fold origin of urea. The amount of urea is reduced to a minimum, and then remains stationary until death.

9. The quantity of uric acid is increased, and urates are deposited.

10. The phosphoric acid remains about the same in quantity as in health.

11. The sulphates and chlorides are greatly diminished.

12. Leucin and tyrosin appear and may be detected by microscopical inspection, after concentration, and may be approximately estimated by the method given. —*Physician and Surgeon*, August, 1882.

Purified Tow for Antiseptic Dressings.—MM. Weber and Thomas, of the French Army, assert that the desiderata of an antiseptic dressing for military

surgeons are—(1) absolute purity; (2) perfect whiteness and cleanness; (3) elasticity, smoothness, and softness; (4) great absorbent power, both of secretions from wounds and of antiseptic agents; it should (5) efficiently filter the air; (6) be antiseptic; and (7) cheap. They assert that they have prepared some purified tow which answers all these requirements thoroughly. Commercial tow is dirty, harsh from the presence of much woody fibre, and non-absorbent. This commercial tow is first dusted and tied tolerably firmly in packets, which are then soaked in water for twenty-four hours; they are then wrung out and placed in cast-iron pans, and a solution of caustic soda is poured on and kept just boiling for half an hour. The tow is then put into cold water and repeatedly washed until it has no action on turmeric paper. Subsequently it is immersed for half an hour in a solution of hypochlorite of sodium, and again washed in cold water as before. After soaking for twenty-four hours in cold water the latter is pressed out and the tow is plunged into dilute hydrochloric acid and left for half an hour, after which it is again washed in water and allowed to soak for twenty-four hours and then dried, after which it is carded in sheets or pledgets, or combed. Tow thus prepared is stated to be chemically pure, of perfect whiteness, soft, very elastic, readily absorbent, easily impregnable with antiseptics, and cheap. To render it thoroughly aseptic, it may be impregnated with either carbolic acid or iodine. For the former a solution of three parts of the acid in two parts of alcohol is sprinkled on sheets of filter paper, and these are laid between sheets of the tow and placed in a closed box. At the end of forty-eight hours the acid has all passed into the tow, in which it can be demonstrated under a microscope in the form of minute drops. MM. Weber and Thomas have prepared the carbolized tow of a strength of ten per cent., which they state to be an unirritating dressing and more than sufficiently strong of the acid for surgical purposes. To impregnate the tow with iodine, they expose it to the vapor until it assumes the color of roasted coffee. By similar means creasote, eucalyptus, etc., may be added to the tow. They state that, prepared in moderate quantities, the purified tow costs 1½ fr. to 1¾ fr. per kilo, or when carbolized 2 fr. to 2½ fr. per kilo.—*Lancet*, July 29, 1882.

Decoction of Onions in Milk in Dropsy.—Dr. Resquez claims to have obtained the greatest benefit in the treatment of various forms of dropsy by the use of a decoction of onions made by boiling in milk.—*L'Abeille Méd.*, July 17, 1882.

Persistence of the Ductus Arteriosus.—Dr. Malherbe (*Journ. des connais. Méd.*) cites several cases in which this malformation existed without producing characteristic symptoms during life, and enumerates, on the other hand, the symptoms which may fairly lead us to suspect it when they do exist.

The presence of a rough, prolonged murmur, systolic, or changing from systolic to diastolic, and having its maximum intensity at the level of the third left costal cartilage, and propagated up towards the left clavicle, justifies the diagnosis of persistent ductus. The murmur may be accompanied by either a general or a local cyanosis. It differentiates itself from that caused by an immediate communication between the pulmonary artery and the aorta, inasmuch as the latter produces a murmur of an intense thrilling character heard all along the hollow of the back, and loudest of all at the level of the transverse aorta (third and fourth dorsal vertebræ).

Persistent ductus is compatible with perfect development, strength, health, and long life.

One case quoted (age 28) was highly cyanotic, yet the patient was capable of severe and prolonged toil without respiratory difficulties. Another, a lady of 50, had never complained of anything leading to suspicion of malformation, which was only discovered post-mortem.—*Practitioner*, August, 1882.

Treatment of Lead Colic by Belladonna.—M. Bernutz has been repeating the studies of M. Malherbe as to the tolerance of belladonna in cases of lead colic, and he has found that as much as sixty centigrammes of the powder may be administered in severe cases, and when employed associated with purgatives, a prompt cure usually resulted.—*Rev. de Ther.*, August 1, 1882.

Fatty Tumors of the Palm of the Hand.—Lipoma of the palm is an infrequent but important affection. The diagnosis is attended with difficulty, for the tumors are often fluctuating; and in this, as well as their slow and painless growth and rounded outline, and the fact that they sometimes extend under the annular ligament, they resemble cysts of the synovial sheaths. When punctured, they do not yield fluid, but, on the contrary, a small pellet of fat may be extruded, which makes the diagnosis certain. The treatment is excision; but this should not be lightly undertaken, as in the palm these tumors do not grow from the subcutaneous fatty tissue, but from the fat under the deep fascia or between the muscles. Indeed, it has been suggested that in some cases they are developed from processes of the synovial sheaths of the flexor tendons, and are comparable with the arborescent lipoma of the synovial membrane of the knee described by Billroth. Great care must be taken to secure union of the wound by first intention, or the apparently simple operation may be followed by extensive suppuration in the palm and adhesion of the flexor tendons, with the result of a more or less useless member.—*Lancet*, July 29, 1882.

Albuminuria and Peptonuria.—The presence of albumen in the urine is not always due to renal disease, and in many forms of the latter it is often absent.

Albuminuria may be due to, 1. Increased arterial tension in the renal artery, producing active or passive hyperæmia; 2. Different parenchymatous diseases of the urinary organs; 3. Different fevers, such as typhus, variola, scarlatina, etc.; 4. Different diseases of the brain or medulla; 5. Poisoning by various substances, such as cantharides, carbolic acid, arsenic, morphia, alcohol, and phosphorus; 6. Irritation of the skin by thermal, chemical, or electrical agents; 7. Injection into the vessels or introduction into the stomach of large quantities of white of eggs, injection of defibrinated blood or water; 8. Sometimes in good health to violent exercise; 9. Renal ischæmia, compression of the renal artery, and intestinal catarrh; 10. Diminution of the quantity of chloride of sodium by transitory albuminuria.

Peptonuria is observed in profound disturbances of general nutrition, as in acute poisoning by phosphorus. It appears that in this disease the peptones do not come directly from the blood, but are artificial products developed in the uriniferous tubules and after the evacuation of the urine. The peptones result from the urinary digestion of the albumen by a process analogous to gastric digestion, as Brücke has found pepsin, and Potchin a special acid, in the urine, and as it has been found that the transformation into peptones is interfered with by alkalies and a reduced temperature.—*L'Abeille Méd.*, July 24, 1882.

Naphthaline as an Antiseptic.—Naphthaline has recently found a new and important use in medicine.

It has been found that this hydrocarbon is an excellent antiseptic, which kills fungi and bacteria in a short time. For surgical bandages and in contagious diseases, as far as experiments have been made, it has answered an excellent purpose, and seems well adapted to replace in many cases those antiseptics now so much used, namely, carbolic and salicylic acids, and iodoform. It has one great advantage over carbolic acid, being absolutely free from poison, and can therefore be used in any desired quantity without causing any disturbance. It also surpasses all other antiseptics in cheapness. As 100 kilos of pure naphthaline can be bought for 60 marks (about 7 cents per pound), there is no doubt that it will soon find general use for medical purposes.—*Scientific American*, August 12, 1882.

SYPHILIS CONVEYED BY SKIN-GRAFTS.—Another case in which syphilis was conveyed by skin-grafts is reported in Paris by M. FÉRÉOL. It occurred in the practice of M. Deubel; the patient was a man, aged forty-nine, who had not had any venereal affection, and who had a large wound caused by erysipelas with sloughing. Seventy-five dermo-epidermic grafts were put on, nearly all of which "took," and cicatrization was rapidly effected. A month after the application of the first grafts the cicatrix began to ulcerate in several places. Six weeks later an abundant roseolous eruption broke out over the body, and a month later mucous patches appeared in the mouth. One of the sons of the man, who had furnished grafts on each occasion, then consulted M. Deubel for mucous patches about the anus, and stated that eighteen months previously he had had a hard chancre for which he had not had any treatment. The case is apparently beyond all doubt, and shows the necessity for caution in the selection of persons from whom grafts are taken. The safest rule to follow is, wherever possible, to take the grafts from the person on whom they are to be implanted.—*Lancet*, July 29, 1882.

IODOFORM IN CHRONIC PULMONARY AFFECTIONS.—PROF. CHIARMELLI (*Giorn. di Clin. e Terapia et Gazz. Med. Ital., Prov. Ven.*, 1882), encouraged by the happy results obtained by Prof. Semmola with iodoform in the treatment of chronic affections of the bronchi, has experimented with this medicine during four consecutive years at the Hospital for Incurables, in many affections of the respiratory passages.

In phthisis, even at an advanced period of the disease with the presence of cavities, iodoform has given the author excellent results. In each case it diminished expectoration, and exercised a favorable influence upon the febrile manifestations. "Iodoform," he says, "diminishes the fever and affects the expectoration, which it not only diminishes in quantity but alters in character, preventing the putrefaction of its albuminoid elements. I am also convinced that the contents of the cavities in the lung exercise a powerfnl influence upon the production of hectic fever." In recommending iodoform in pulmonary phthisis, the author does not assert it to be a specific, but he claims that it arrests the march of this cruel malady and prolongs the life of the sufferer.

He also holds that in cases where caseous pneumonia is commencing, iodoform administered for a time proves efficacious in arresting the progress of the disease. With many individuals affected with chronic bronchitis and emphysema, it renders great service.

The formula which is employed is as follows:

Iodoform,	grs. iss.
Powdered lycopodium,	grs. viij.
Ext. of gentian,	q. s.

Make into 10 pilules. Take 3 to 5 in the day. If the dose is increased, gastric disorders supervene, and it is better to continue the above dose for a considerable time.—*Glasgow Med. Journ.*, August, 1882.

SPONTANEOUS RUPTURE OF THE STOMACH.—LANSCHENER (*Wiener Med. Blätt.*) reports the case of a woman, aged 70 years, who for a number of years had had an immense umbilical hernia. who, in an attack of vomiting after copious drinking of water, heard an explosion, experienced a sharp pain, and died in collapse in thirty hours. At the autopsy the small intestine and pyloric end of the stomach were found in the umbilical orifice, only the body of the stomach and the large intestine remaining in the abdominal cavity. In the posterior wall of the stomach there was a rupture more than one centimetre long; the abdominal walls seemed healthy.—*L'Abeille Méd.*, July 24, 1882.

ELECTRICAL TREATMENT OF ANGINA PECTORIS.—DR. LÖWENFELD (*Aerztl. Intelligenzbl.*, No. 39, 1881) relates a case of angina pectoris in which galvanization proved beneficial. The patient, a man aged 47, was subject to attacks of the disease occurring every month or two. These were characterized by excited respiration, oppression, small frequent pulse, sternal pain radiating to the left arm, and convulsive tremors of the limbs, and lasted about one hour. The heart was normal. The constant current was applied for one minute to each side of the neck along the course of the pneumogastric. The sense of oppression was immediately relieved. Ten such applications in the course of three weeks were followed by complete freedom from the attacks for more than two years.—*Practitioner*, August, 1882.

EXCISION OF THE TONGUE.—MR. CROLY, of Dublin, performs the following operation for cancer of the tongue, even when the disease is situated in the anterior portion of the organ: He first ligatures each lingual artery close to the hyoid bone, through a curved incision reaching from the symphysis down to the hyoid bone, and up and back to the angle of the jaw. Through these incisions he withdraws the tongue, as in Regnoli's operation, and removes the requisite amount of it by the benzoline cautery. Lastly, he divides the gustatory nerve where it lies along the inner border of the jawbone.—*Lancet*, August 5, 1882.

PUERPERAL INFECTION IN THE MALE.—DR. LAPONI reports, in the *Rivista Clinica di Bologna*, the case of a man who was infected with septic inflammation, after coitus with his wife, who was suffering from puerperal fever, and died seventeen days afterwards.

LUPUS OF THE LARYNX.—BREDA, basing his results on a great number of observations, to which he adds four occurring in his own practice, arrives at the following conclusions: Lupus of the larynx may be either primary or secondary to a similar affection of the skin, or nasal or buccal mucous membrane; it occurs most frequently in children (though a case in a man, aged 44 years, has been reported), and always in individuals of a lymphatic temperament. Males are less frequently attacked than females. In the larynx, lupus is most often found in the epiglottis, then on the aryepiglottic fold: in two cases only (Virchow, Thomas) did the process involve the trachea.

This disease is principally evidenced by affections of the voice, usually leading to complete aphonia. It is unusual to see it accompanied by any general nutritive disturbance; acute œdema of the larynx, threatening suffocation, may occur; oftentimes no troubles of deglutition or local pain are present.—*Journ. de Méd. de Paris*, August 5, 1882.

Atropia as an Antidote to Pilocarpine.—Dr. Frohnmüller reports a case in which the hypodermic injection of 0.02 grm. of the muriate of pilocarpine, in a man aged eighteen, with exudative pleurisy, produced exaggerated symptoms of pilocarpine poisoning; the administration of twenty drops of an atropia solution used for the eye was followed by an almost immediate disappearance of the symptoms. A number of experiments were then instituted, which show that this antidotal property is also possessed by homatropia.—*Med.-Chir. Centralb.*, July 14, 1882.

Iododorm in Toothache.—Schaff, in the *Deutsche Med. Zeit.*, No. 12, recommends iodoform, on account of its gently caustic action, as an anodyne application to exposed tooth-nerves. The circumstance that a single or repeated application of iodoform does not produce any irritation, much less any inflammation of the periosteum, and the double function of the remedy as a cleansing and disinfecting agent, make it especially appropriate as a caustic, particularly before the introduction of a temporary filling. The author uses a paste consisting of iodoform, powd., grs. 60; kaolin, grs. 60; carbolic acid, grs. 8; glycerin, q. s.; oil of peppermint, gtt. 10. Triturate the iodoform, kaolin, and oil of peppermint with enough glycerin to form a thick paste.—*British Med. Journal*, July 15, 1882.

Direct Transfusion of Blood.—At the meeting of the Société de Chirurgie, held July 19th, M. Roussel read a paper on an apparatus for direct transfusion of blood. This instrument was presented several years ago to the Société, but met with little favor; since then he modified it somewhat, and he now believes it fulfills all the indications.—*Gaz. Hebdomadaire*, July 28, 1882.

Congenital Malaria.—From a careful study of this subject Dr. Ch. Leroux derives the following conclusions:

1. It is as yet impossible to affirm the existence of a congenital form of malaria, or to establish the influence of heredity in infantile malaria. The reported cases are not numerous enough or sufficiently conclusive.

2. The existence, however, of certain cases of congenital hypertrophy of the spleen in children born of malarial parents, and in which the hypertrophy can be attributed to no other cause, together with the existence in such cases of other signs of malarial cachexia, render the existence of a congenital or hereditary form of malaria not altogether improbable.

3. Certain children appear to be born with an inherited predisposition to malaria, and may, even without being directly exposed to external malarial influences, suffer from an intermittent form of fever from the time of their birth of a type similar to that existing in the mother. There is considerable reserve expressed as to the share due to heredity in the production of these cases. Further researches are necessary.—*Rev. de Méd.*, July, 1882.

Nutritive Injections.—Dr. Morrel Mackenzie recommends the following combination:

Boiled Beef, Mutton, or Chicken,	℥iiiss.
Sweet-bread,	℥ij.
Fat,	℥v.
Brandy,	℥ij.
Water,	℥iiss.

The meat, fat, and sweet-bread, should be minced very fine, and then passed through a sieve. The injection should be warmed up to 32°–35° C. before use, and should not be given oftener than twice in twenty-four hours: the rectum should be washed out with warm water before the injection is administered.—*Journ. de Méd. de Paris*, August 5, 1882.

Ligature of the Femoral Vein at Poupart's Ligament and Lateral Ligature of Veins.—At the eleventh annual meeting of the German Surgical Society, held in Berlin on May 31, Braun, of Heidelberg, advocated the ligation of the femoral vein at Poupart's ligament, since of the twelve cases reported of this character, in only two did any results of obstructed circulation appear, while the ligature of the femoral artery is only necessary when the ligature of the vein fails to control the hemorrhage. Braun also stated that the danger of thrombosis or slipping of the thread in lateral ligature of veins was over-estimated.—*Berliner klin. Woch.*, June 12, 1882.

Action of Pilocarpine on the Heart.—M. Schuk has analyzed the action of pilocarpine on the heart, and thinks that it cannot be regarded as an active heart poison, as it is only capable of arresting the heart in a 1.25 per cent. solution. And even in this dose the ganglionic apparatus alone is acted on, the muscular fibres remaining unaffected. Atropia is capable of effacing the retarding action of pilocarpine. The effects produced by pilocarpine are proportionate to the dose, a point of contrast with the action of muscarine and atropia. The pulsations of all parts of the frog's heart are arrested by pilocarpine in large doses. —*Centralb. f. d. Med. Wissen.*, No. 20, 1882.

Extract of Convallaria Maialis as a Diuretic. —At the meeting of the Société de Therapeutique, held July 26, M. Moutard-Martin read notes of a case in which the administration of the extract of convallaria, when associated with chloral, produced marked diuretic effects, while neither alone produced any change in the quantity of urine passed.—*Gaz. Hebd. de Méd. et de Chirurg.*, August 4, 1882.

The Effects of Depression of the Cranium.—In an elaborate memoir on the subsequent effects of depression of the cranium in childhood, Dr. Guermonprey draws the following conclusions:

1. Depression of the cranium, whether complicated or not, can, in a general manner, be the cause of various psychical disturbances.

2. These disturbances are more important when the depression is located in the frontal region, particularly on the left side.

3. The depression may act as an interference to the normal development of the psychical function and growth of the brain.—*Arch. Gén. de Méd.*, Aug. 1882.

Poisonous Effects Produced by the Topical Use of Iodoform.—Mr. Henry E. Clark reports a case of poisoning from the topical application of iodoform to a sinus, the result of a chronic abscess in front of the hip-joint. The symptoms in this case, as in most of the recorded cases of iodoform poisoning, although they vary considerably, have certain features in common which it is well to discriminate. Thus, in all there is pyrexia marked by extreme irregularity, the temperature running up to 104° F., or even more, and falling again very rapidly to near normal; the rise invariably takes place in the evening, but the morning fall is nearly always out of proportion to the evening rise. Thus, in the case under notice, the temperature on the evening of the 11th May was 103.8 F., but fell the next morning to 99.4 F., to again rise the following evening to 102°. Again, on the 16th, evening, it was 102.6°, and the following morning it was normal; but again rose to 102.4° at night. The pulse is extremely rapid and feeble, its rapidity being in great measure independent of the rise of temperature—for in our case it was noted that the pulse beats were 140 per minute on the 13th, morning, when the temperature was nor-

mal. Nausea, vomiting, and loss of appetite are invariable symptoms, the vomiting being persistent and very little relieved by treatment. In the case detailed this symptom continued for more than a fortnight in spite of remedies, and the vomited matters were of viscid consistence and greenish color. There is always lassitude, headache, and dulness of intellect, and often delirium, which in the worst cases passes into unconsciousness, or is followed by localized paralysis. The symptoms sometimes resemble those of acute meningitis, the patient uttering peculiar cries, rolling his eyes, and the headache being intense, It is curious that although iodoform is so freely used in a great variety of conditions, and in patients of all ages and constitutions, it so seldom happens that constitutional effects are produced, and we are led to ask what are the circumstances which predispose to the absorption into the system, and the production of general symptoms. Mundy holds that the large quantity employed is the chief factor, and speaks of cases where from 2½ ounces to 10 ounces have been employed at one dressing; certainly in our case we could not blame ourselves for the reckless employment of the drug, as only five grains were applied on each alternate day. Another point, however, to be noted is the condition of surface to which it is applied; thus, on a free surface where a great deal of the iodoform is carried into or through the dressing by the discharge, the risk of absorption will be less than in a sinus with only one external opening where the discharge is pent up and the iodoform may be retained for many days. Nor must it be forgotten that some granulating surfaces are more active than others in absorbing materials from without, healing burns being especially adapted for absorption, which may account for the number of fatalities where this drug has been employed in the treatment of burns. —*Glasgow Med. Journ.*, August, 1882.

The Total Volume of Blood in the Body.—MM. Grehant and Quinquand have endeavored to improve on the present inexact methods of determining the volume of blood in the body.

Claude Bernard established that the oxide of carbon when united with hæmoglobin formed a much more stable compound than oxy-hæmoglobin, and that oxide of carbon would displace its own volume of oxygen.

The total volume of the blood can therefore be obtained by allowing an animal to breathe a certain quantity of gas containing a known proportion of carbon mon-oxide. Then on measuring, say a quarter of an hour afterwards, the volume of carbon mon-oxide remaining, the volume absorbed by the blood can be readily estimated. On the other hand, the amount of mon-oxide fixed by a given volume of blood can be determined by measurement before and after the poisoning. Knowing the volume of gas absorbed and the quantity fixed by 100 c.c. of blood, the entire volume of blood can be obtained by a simple proportion. They do not give, however, any results of these examinations.—*Revue Scientifique*, June 10, 1882.

The Alkaloids of Pao Pereira (*Geissospermum lævе*).—E. Czerniewski, in an inaugural thesis, reports the results of a careful study of this subject, especially in its relations to toxicology, as follows:

1. From acid solutions geissospermin is extracted by benzole and chloroform, pereirin only by chloroform; from alkaline solutions geissospermin is removed by benzole, chloroform and amylic alcohol; pereirin by petroleum, ether, benzole, and chloroform.

2. Geissospermin is distinguished from strychnia by the fact that it is taken up by its solvents from acid solutions, by the reaction with Frœhde's reagent, and by the physiological test.

3. Pereirin may be distinguished from brucia by the fact that chloroform removes it from acid solutions, by its reaction with gold chloride, by its behavior with nitric acid and stannous chloride—in which reaction a striking similarity between the two alkaloids is also shown—and by the physiological test.

4. Geissospermin is rapidly absorbed from the alimentary canal, and is eliminated by the kidneys. The elimination reaches a maximum rate in from 24 to 72 hours.

5. Pereirin is readily absorbed from the intestines, but is apparently for the most part decomposed in passing through the system.

6. In a forensic analysis, geissospermin is to be sought in vomited matters, in the stomach, small and large intestines, liver, feces, and urine. Pereirin is to be looked for in vomited matters, in the stomach, small intestines, blood, liver, and lungs.

7. The following reactions of pereirin are especially worthy of note:

(*a*) The red color produced on adding to its solution in dilute sulphuric acid a solution of potassium bichromate.

(*b*) The red precipitate produced by gold chloride.

(*c*) The non-appearance of a red color on warming with mercury nitrate.—*Detroit Lancet*, August, 1882.

Tubercle of the Synovial Sheaths of Tendons.—MM. Terrier and Verchère describe a tubercular disease of the synovial sheaths of tendons, which appears to be more common in the hand than any other part. The tubercular nature of the affection in the cases they report is demonstrated by the microscopical characters of the inflammatory growth and the concomitance of tubercular disease of the lungs. Premising that the disease may be secondary to tubercular affection of neighboring bones and joints, they draw special attention to the form which occurs primarily in the synovial sheaths. They describe the origin of the affection as insidious, and the progress as very chronic. The first symptom is a swelling over part of a synovial sheath, as, for example, over the palmar surface of a phalanx. This swelling gradually grows and becomes softer, movement of the part then becomes both painful and limited. Other like swellings appear over other portions of the synovial membrane, as in the palm of the hand and above the wrist. The skin becomes adherent, reddened, and ultimately ulcerates, and pus and sero-pus are discharged; the ulcer extends, its edge being irregular, thin, undermined, and livid. A probe passed to the bottom of the ulcer readily finds a narrow opening into the sheath, along which it may be passed for some distance. The tendons do not slough, nor do they become firmly adherent. The disease does not spread to the neighboring bones and joints; and although in its course more than one part of the synovial membrane is affected, these are separated by quite healthy portions of the membrane, and this fact forms one of the best diagnostic features by which it may be distinguished from fungous disease of the membrane, in which the whole extent of the sheath is always involved. In one of the two cases observed by the authors, there was a very distinct history of an injury as the exciting cause: the patient, a young woman, had cut her wrist severely, and in another case there was a history of a bruise. The constant and rapid movements of the hand are considered to account for the great frequency of the disease there. The only treatment which promises any good seems to be early free removal of the tumors; cases in which this was done with good effect by Trélat and by Bouilly are recorded in the paper before us in the July number of the *Revue de Chirurgie*.—*Lancet*, July 29, 1882.

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CONVULSIONS IN CHILDREN.

INFANTILE convulsions must always possess for the practical physician a keen, almost a fascinating, interest. The cases are by no means of equal importance—some may be immediately dangerous to life; some may be merely symptomatic of diseases varying immensely in severity, and some may possess but little significance. As regards the symptom—convulsion—the phenomena are various. The convulsions may be general, and involve all the muscles of animal life, or they may be limited to a single group of muscles. The symptomatic and the therapeutical diagnoses demand the clearest conception, the greatest fertility of resource, and the utmost promptitude of action.

As above suggested, a convulsion may mean much or little. At the outset, it is best to have as definite a conception as possible of what a convulsion is. That the pons Varolii and medulla oblongata are centres of reflex actions has long been known, but it was reserved for Nothnagel to demonstrate the position and define the limits of the "spasm centre." Irritation of this centre induces general convulsions, and this irritation may be direct or reflex, centric or excentric. The results of experimental physiology receive support from pathology. Ladame, in his *Hirngeschwülste*, has formulated this conclusion: When the symptoms of brain tumor exist, if there are convulsions, the tumor is not in the medulla, which may be interpreted as follows:

When a tumor develops in a position to injure the *spasm centre*, convulsions become impossible because the injured part has lost its power to functionate.

Various causes increase the irritability of the spasm centre. Abnormal irriatbility may, indeed, be hereditary. It is well known that certain families exhibit the tendency to convulsions, and all the children may experience attacks, or they may be confined to one sex. This tendency may be so strong that infants in the womb are affected, but it is in the first two years of infantile life that the greatest irritability of the spasm centre is found to exist. Beside this tendency, which is inherited, various constitutional states increase the liability to attacks of eclampsia. Rickets has a prominent position as a pathogenetic factor. This state acts, probably, by so increasing the irritability of the centres of reflex action, that very slight peripheric irritation sets off the high-strung spasm centre. The state of nutrition of the child is not without influence. When much reduced by long illness, the reflex functions are correspondingly lowered, and hence when, under such circumstances, convulsions occur, it is reasonable to suppose that no peripheric irritation has sufficed, but that some "coarse lesion" of the intra-cranial organs is the cause. Hence it follows that the nutrition of the child suddenly attacked with convulsions has diagnostic value; if the child be fat and healthy, the convulsion is a symptom of some excentric irritation; if weak and emaciated, it signifies some centric lesion, notably tuberculosis. It is not affirmed that such a rule has no exceptions—only that it has diagnostic value.

It is important to distinguish between eclampsia and epilepsy. Age is an influential element. If a convulsion occur after four or five years of age, if it is over in ten minutes, and no cause can be discovered for it, these constitute good grounds for suspecting epilepsy. If the attack is accompanied by high fever, if albumen can be detected in the urine, or if some acute disease follow, the seizure is one of eclampsia, although the patient may be anywhere from two to ten. Again, the character of the attendant phenomena—the behavior of the convulsion itself—throws strong light on the diagnosis. When the convulsions are limited to the face, to one limb, to one side of the body, it may be concluded that the lesions are intra-cranial. Again, if any part, the seat of convulsion—the face, the limbs, etc., should continue paretic or paralyzed for some days after the seizure, or if a squint should continue, or an eyelid droop, or the pupils remain unequal, cerebral lesions probably exist.

The prognosis of convulsions is usually difficult. When arising from intra-cranial lesions, the prospect is gloomy. Such evidences of cerebral mischief as squinting, irregular pupils, coma, etc., are of evil omen. In the convulsions due to uræmic poisoning, the most unfavorable symptoms may be recovered from, but the case wears a less hopeful

aspect the more persistent the failure of the urinary excretion. When the breathing continues labored, and there is deep cyanosis, with lividity of the face and the pulse is very rapid, the case has a most unfavorable appearance. A convulsion at the onset of an acute affection, as scarlet fever, affords no certain indication of the future gravity of the disease, but does illustrate the mobility of the nervous centres. Convulsions occurring toward the close of an acute disease, are unfavorable, and often signify that the disease has taken a more serious direction, or that tubercular meningitis has come on. In some children, so irritable and mobile is the reflex centre of spasm that but trivial peripheral impressions suffice to bring on convulsions. Amongst such causes, are indigestible food, swollen gums, earache, etc. Such children may have repeated attacks, which, if known, must lessen the gravity of the prognosis. A guarded opinion should be given as respects the future condition of such children, for if convulsions occur readily during the first and even second dentition from slight causes, this is a reason for apprehending the subsequent occurrence of epilepsy. Habit is such an influential factor in determining attacks of nervous diseases that we may well be solicitous regarding its power here.

The treatment of convulsions has an importance determined entirely by the cause of the seizures. Is the attack merely an excited state of the spasm centre from simple peripheric irritation? Has the child eaten some indigestible food? Are there worms, irritating foods, scybala, etc., in the intestinal canal? Is there a stone in the bladder, preputial irritation, or other source of irritation in the genito-urinary tract? Has sufficient urine been passed, and is the urine albuminous? Is an acute disease beginning, and is fever present? Has the child passed through an illness recently, especially of scarlatina or whooping-cough? Is the child emaciated? Has the child rickets? The treatment is much influenced by the answers to these questions. Causes of irritation must be at once removed by emetics, purgatives, vermifuges, etc., as required. Then follow the measures to allay the excitability of the spasm centre; bromide of potassium, chloral hydrate, and the inhalation of chloroform. When time presses, the last-mentioned expedient has great value. It is sometimes advised to administer ether instead of chloroform, but this suggestion indicates a failure to appreciate the excitant qualities of the former. Chloroform is well borne by children, and is more effective than ether. Chloral, by the rectum, renders an incontestable service. It is safe in the case of children; it is effective, and although not so prompt, is more sustained in action than chloroform. Bromide of potassium is most useful after consciousness is restored to prevent future or impending attacks, or to allay the excitement, muscular twitching, etc., which may indicate the onset of convulsions. When swallowing is impossible, bromide may also be given by enema, and it may be combined with chloral for all of the purposes to which the latter is applied. If the surface is cold, the circulation feeble, and the skin dry, the child should be put in a bath at 100° Fahr. If the same conditions exist with a moist and clammy skin, dry heat should be used, the articles affording it having a temperature of 100° also. If, on the other hand, the temperature of the child is high, reaching 103°, 104°, or 105°, or more, the cold bath, or the cold wet pack should be employed without hesitation. The character of the bath prescribed will necessarily be affected by the state of the urinary secretion. If it is necessary to compensate in an increased action of the skin for the diminished activity of the kidneys, a warm or vapor bath may be necessary. If albuminuria exists, and the urine is very scanty, the convulsions being distinctly uræmic, a very powerful action of the skin must be secured, and this can be effected by no measure so successfully as by pilocarpine. There can be no doubt of the great good accomplished by this remedy under these circumstances, but any prudent practitioner will avoid inducing a dangerous cardiac depression by the use of large doses. Compensation for the diminished urinary secretion can also be obtained by free catharsis.

We should not fail to mention the remarkable results obtained by Loomis in cases of uræmic convulsions, by the hypodermatic injection of full doses of morphia. Although such treatment has been applied to adults only, and may be inadmissible in children, it throws light on the therapeutical diagnosis. In the simplest cases, almost no treatment may be required. A child has eaten an indigestible meal, has a convulsion, and vomits freely. The stomach emptied, the nervous disturbance ceases, but it is always well in such cases to prescribe some bromide of potassium to allay the reflex irritability and the excitement of the spasm centre. Here, as under all circumstances, no treatment should be instituted that is not the result of a careful survey and a logical deduction from the facts.

"OUR POOR FEET,"

So Mrs. Haweis, in her "Art of Beauty," well entitles one of her chapters. The "Crusade against Fashion" seems to be growing in importance and vigor. A century ago Camper, Professor of Medicine at the Hague, took up the task, and now not only a lady, but well-known scientists, are entering the lists, and they are lances that count for something. Mr. Flower, in his "Fashion in Deform-

ity," in England; Onimus in France; Starke in Germany; and Dr. Benjamin Lee in this country, have treated the subject in scientific papers of value. The war has been carried also into Africa. Such good surgeons as Mr. Treves, of London, and Mr. E. Noble Smith—the latter at the request of the National Health Society—have addressed public meetings on the evils of our modern dress. The *Medical Times and Gazette* intimates that such reforms had better be left to men of smaller calibre, as if the subject were beneath their dignity. But when we see that Mr. Flower and Mr. Spencer Wells do not regard it beneath their dignity to preside, or Dr. Clark to speak, at such meetings, or foremost scientists to write on the subject; and when we think of the importance of the matter as to health and to comfort, we hail the omen as auspicious. Men of small calibre would not gain the public ear. Wellington's first care was that his army should be well fed and well shod. Sir Henry Thompson has shown us how to cook beans; why should not Onimus show us how to make shoes?

It may be that the ladies will consult their *modistes* as to the size of their waists, and both sexes their shoemakers as to the shape of their shoes, rather than flee to the doctor, only to be met with a stern rebuke. But what if we could get the ear of the *modiste* and the shoemaker, and make the natural the fashionable, or convert by fortunate chance a Mrs. Langtry to the idea that natural forms are not ugly, and that the Venus de Milo and the Apollo Belvidere are at once models of health and of beauty? But be it as it may, it is our duty to cry aloud, and if society and the shoemakers will not hear—*tant pis!*

Savages do not deform the feet. Only the semi-civilized and the civilized do. We often hold up our hands in horror at the Chinese. Were it our feet—we would soon cease holding them up. Look in the *Popular Science Monthly* at Mr. Flower's latest Paris shoe for women, or at the outlines of the natural foot with those of a shoe dotted over it, or at his only too faithful pictures of common deformities of the foot seen every day at our hospitals, and then say whether the Chinese are very much ahead of us, *quoad* the feet.

But let us see the actual troubles in detail. They are of two kinds, first, as to the axis of the sole, and, secondly, the kind of heel. The Waukenphast shoe follows very well the curved axis of the foot-sole, as Dr. Lee has shown. But ordinary shoes have a median straight axis with nearly symmetrical curves on each side, barely varied enough at the "waist" to make them rights and lefts, and at the toes it is an evenly bevelled wedge, as if, as Mr. Dowie says, "the human foot had the great toe in the middle and a little toe at each side like the foot of a goose"—which, indeed, it too often is.

The result is that the great toe is bent obliquely outward, often overlapping the others, and a bunion soon forms at its knuckle-joint; the other toes are crowded together so that the little toe is pressed tightly inwards, followed by one or two quickly developed corns; and at least one of the other toes, to find room for itself, either overrides its neighbors or is overridden by them, and not seldom has to be amputated to make walking to any extent a possibility. In-growing toenails also often result from this pressure.

The effects of slight continuous pressure, as shown in the grooving of hard bone by a soft elastic artery, all doctors know, so that we may well believe, with Mr. Flower, that even the stockings should be rights and lefts, and in some cases made like a glove with compartments for each toe. In fact, he says, a normal foot can scarcely be found.

Who does not admire a baby's foot or that of an antique statue? Notice the wide-spreading toes, the large inter-space between the great toe and the second, the almost independent mobility of every toe, and especially of the great toe with its seven muscles. Verily if women would only heed the lesson and show a really natural and pretty foot, they would add, as Mrs. Haweis says, a dangerous arrow to their quiver of charms.

But the other evil is equally bad, and is especially and almost exclusively a woman's danger. The heel is made too small and too high, and is displaced forward. Its narrowness makes women unsteady in their gait, like the Chinese. Their equilibrium is unstable. Its height is still worse. It puts the sole on an inclined plane as if the wearer were constantly going down a mountain; and how fatiguing that is let any one say after a trial. It predisposes to falls. The foot sliding forward on to the toes doubles them up producing painful corns on their upper surface. It throws the weight on the forefoot instead of the heel. Onimus shows by the graphical method, to which we lately alluded, that this twists the axis of the foot inward and often produces painful contractures of the calf muscles, the anterior tibials, and even the muscles of the thigh, due to the extra work required by the abnormal posture to maintain the body in equilibrium, and prevent it from falling forward. Especially is the peroneus longus muscle put on the strain by these two defects. Let any one stand bare-legged on one foot, and watch the tendons of these muscles in a looking-glass as his equilibrium is disturbed. Every slight want of balance causes one or another to spring into strong relief, showing their vigorous contraction. Imagine this going on all day in both feet, and one can readily believe that walking and

especially running (well-nigh a lost art among corset-bound and Chinese-shod women) will be rarely indulged in except when necessity admits of no excuse.

These evils are rendered even worse by the absurd displacement of the heel forward. This shortens the base of support thus increasing the instability of the gait, and transfers the point of support from the heel to the arch of the sole, where, instead of a large, solid, well-padded bone to bear the weight, we have a series of small bones and joints, ill protected from the blows attending each step; and the result is a frequent chronic slight inflammation of these joints which makes the foot tender and constantly uncomfortable.

The effects both on health and temper of evils such as we have described, the tendency to a sedentary life and sedentary pursuits, the unfitness for athletic sports involving the free use of the legs and feet, are evident to all but the devotees of fashion. But the evil consequences do not stop here. The respiration and the circulation are impaired, the nervous system suffers, and Onimus even believes that many displacements of the uterus result from the change in the centre of gravity.

Shoes that are natural in shape and healthful in use need not be ugly. But this is not so much a question of fact as of fashion. We would not now deem beautiful the very long shoe, with its hay-stuffed toe, worn by the gallants of the fifteenth century. Mrs. Haweis has suggested—and the suggestion is worth heeding—whether the Greek sandal could not be re-introduced with advantage both to health and looks, while the feet could be protected in our more rigorous winters by substantial and pretty stockings of worsted, silk, or velvet. Her further suggestion that wooden pattens be substituted for rubbers and arctics, at least in wet and mud, has not only novelty, but has given rise to suggestions of form and of ornamentation that are not to be despised. In time, with the æsthetic idea upon us as at present, we may see shoes and sandal-straps, pattens and boots rival in ornamentation those of Chaucer's parish clerk with "Paules windows carven on his shoes."

Now that M. Burq has passed through the stage of denial of his method of metallotherapy, he is assailed with the criticism that it is not new—that he has simply revived Perkinism. In a recent discussion before the Biological Society of Paris, Rabuteau stated that Perkins was the real discoverer of metallotherapy, and that Burq had merely popularized it. But Rabuteau has certainly heard only of the "metallic tractors," and has not investigated Perkins' method. By the use of a metal cylinder, applied to various parts of the body, Perkins pretended to cure all kinds of diseases. In a work published in London, at Perkins' Institute, a copy of which is before us, we find the claims of the inventor of the "tractor" set forth, attested by a number of certificates of cures. There is not a word in this work about the peculiar phenomena of metallotherapy—of the influence of metals on hemi-anæsthesia, of transfer, etc. The two agree simply in the application of metals, but whilst Perkins used his metal tractor as a magician's wand for curing disease, Burq discovered the influence of some metals on the sensory and motor functions of certain hysterical subjects.

RABUTEAU has recently been studying the effects of the sulpho-carbolate of sodium as a purgative. He finds that this salt is a certain and agreeable purgative, and possesses the distinct advantage over the sulpho-vinate, which has been warmly recommended for the same purpose, that it is a stable salt and does not decompose in the air or in aqueous solution.

SOME time ago the London *Lancet* entertained its readers with a letter from a special correspondent in America, who pictured the low state of medical education in this country by asserting that one might graduate from some of its best schools without having seen a clinical case. The unfairness of the assertion, and the false inferences that might be drawn from it, were pointed out at that time on this side of the water. But now the *Lancet* brings to its many American readers a new wrinkle in the methods of medical education. The Yankee student has not been smart enough to get off easier than his British fellows after all. The latter have a way of getting degrees that saves them the trouble not only of studying clinical cases, but also of studying at all.

Before the General Council of Medical Education and Registration, on June 27, Mr. Macnamara brought up the matter of "personation" at examinations. "Some time ago," he said, "it came to the knowledge of the branch Council of Ireland that £200 had been offered to a practitioner by a student to pass some of the examinations for him, so that his name might be in the medical register." Another student, it seems, who had passed first at a preliminary examination, was not in the country at the time. One gentleman (?) passed for himself and three others, and "a most successful grinder" kept a student for the purpose of passing preliminary examinations. It appears from the report in the *Lancet* that these little obliquities were practised to gain the fascinating title of L.K.Q.C.P.I.

IN another column (page 250) we give extracts from a published letter of Dr. J. T. Baldwin, lately

Professor of Anatomy in the Columbus Medical College, and the statements therein contained are so direct, and of such a grave character that if not promptly and fully refuted must seriously affect the standing of the Columbus school, and may even render its faculty amenable to the provisions of the Act of February 12, 1881, which declares that to give a diploma to one who has not attended a full course in the institution granting the diploma, is punishable with a fine of from one hundred to one thousand dollars, or imprisonment in the penitentiary for from one to three years, or both.

REVIEWS.

Transactions of the American Gynecological Society. Volume VI., for the year 1881. Philadelphia: H. C. Lea's Son & Co., 1882.

We are glad to welcome the receipt of this volume at a much earlier period of the year than when that of 1880 appeared. If the contributing Fellows will only act upon an excellent suggestion made last year, and present their papers in a finished state at the fall meeting, we have no doubt that there will be nothing wanting, on the part of the Secretary, to have the volume ready for the press at a much earlier date still—possibly in the spring months. It is not desirable to very largely increase the fellowship of the Society, as such a body should consist mainly of the working gynecologists of America; but an addition of twenty by election in six years seems hardly enough to embrace the element desired. The most certain plan to secure the services of a full corps of contributors would be to issue the transactions at as early day as possible. Writers who are anxious to see their papers in print, in this day of weekly medical journals, are not willing to wait several months for their publication, when periodicals are ready to take them upon much more favorable terms. The size of the volume under notice, 542 pages, indicates no falling off, as yet, in the activity of the working Fellows; but the experience of other societies points to a future time when such a result may be expected, unless the number on the roll shall be considerably increased. The plan of holding the meetings only in the cities of Boston, New York, Philadelphia, and Baltimore, is a wise one, as it secures a large attendance, and excites a much greater interest in the minds of visiting physicians. The experiment of going to other cities than these has been tried, but the result was not encouraging. The day may come when it will be found of advantage to meet always in one city, and the same building, which shall contain a collection of books and curiosities belonging to the Society: but this will require a handsome legacy to put it in force.

The subjects treated in the volume for 1881 are, Acute hyperæsthesia of the peritoneum, following minor gynecological operations; Exploratory puncture of the abdomen; Cases of pelvic effusion resulting in abscess; Genital renovation in urinary and fecal fistulæ; Forcible elongation of pelvic adhesions; Lupus of the vulvo-anal region; Bursting cysts of the abdominal cavity; Erysipelas in childbed, without puerperal peritonitis; Expansion of the bladder over abdominal tumors as a complication of laparotomy; Fibroid polypus with partial inversion of the uterus; Axis traction with the obstetric forceps; Measurements of the uterine cavity in childhood; Jaundice in pregnancy; The practice of gynecology in ancient times—fourteen.

The papers contributed by candidates for fellowship are upon the following subjects: Prevention of laceration of the cervix; A point in the management of the first stage of labor; The treatment of chronic perimetritis by puncture and iodine injections; The mechanical action of pessaries; Mania lactea, with reports of two cases; A contribution to the history of combined intra-uterine and extra-uterine twin pregnancy—six; of these, four were from New York, and one each from Chicago and Baltimore. Of the fifty-four Fellows of the Society, thirty-six reside in Boston, New York and Brooklyn, Philadelphia, and Baltimore; one third of the whole fifty-four coming from New York and Brooklyn.

The volume of 1881 will compare well with any European production upon the same class of subjects. It is not too much to say, that it has no superior in the English language, either in material or finish, as a society's transactions.

CORRESPONDENCE.

THE JUBILEE MEETING OF THE BRITISH MEDICAL ASSOCIATION.

Worcester, Wednesday, August 9, 1882.

The jubilee of the British Medical Association was held to-day, but a large number of the members came to the loyal city of Worcester yesterday. The city is gay with bunting, and is evidently *en fête* to receive the medicos, who are here to the number of nearly six hundred, among whom I have already noticed Dr. Austin Flint and Dr. F. S. Dennis, of New York, both of whom are very well known and very popular with us. Worcester is the birthplace of the Association, which was started just fifty years ago by Sir Charles Hastings and a few trusty helpers. Then it was called the Provincial Medical and Surgical Association, and its numbers were few. Now it is a mighty Association, with nearly 10,000 members on its roll, an annual increase of several hundreds, and a rich balance in the hands of the Treasurer. The meeting opened yesterday afternoon with a special service in the Cathedral and a sermon by the Dean on the existence of a Personal God. Closely following this was a dinner given by the Mayor to the officers of the Association and a few distinguished visitors. Then, at 8 P.M., the President for the year, Dr. Strange, of Worcester, was inducted, and delivered his Address on the Revival and Survival of Medicine.

Taking a retrospective glance at the field of medicine, the President observed: "Both at home and on the Continent of Europe that decade was distinguished by a galaxy of names the like of which, at one period of time, the world has rarely if ever seen. There were, indeed, giants in those days. Recall to your minds the names of Wilson Phillip, who once lived here in Worcester; of Lawrence, of Abernethy, and of Cooper, all of whom, however, were already passing away; and then of Copeland, of Latham, of Marshall Hall, of Brodie, and of Watson, in England; of Barclay and Gregory, the Munroes and the Thompsons, of Knox, Alison, Bell, and Christison, in Scotland; of Graves, and Stokes, and many others, in Ireland. Nor was the Continent in any way behind us. I myself had the pleasure and advantage of hearing Louis expound Laennec, and of literally sitting at the feet of Andral, Chomel, Magendie, Roux, and Milne Edwards; whilst Rokitansky, Scoda, Liebig, and, later, Virchow, were raising the German School of Medical Philosophy out of its backward, or at least little known, condition, towards the pitch of eminence to which it has since attained. These men, he contended, were not only

intellectual giants, but they were scholars as well, and no doubt their scholarship was owing to the greater attention then paid to training in classical literature in the education of the physician than is the case now.

"And what was the condition of the provincial practitioner at this time? With the exception of a few local physicians of the older stamp, solemn, scholarly, and formal, and here and there an apothecary of more than ordinary acuteness of observation, there existed one dead level of mediocrity; men without the ambition to compete with their metropolitan brethren because the means of doing so were denied them."

Dr. Strange naturally attributed much of the improvements in the attainments and social position of members of the profession which have been brought about, to the working of the Association. "The aim of its founders was that knowledge should be freely and generously communicated by the free and generous intercourse between hitherto separated and scattered individuals. That this aim has fructified so as to justify its conception was, he thought, proved by the meeting he was addressing; by the vast numbers who now call the British Medical Association their professional parent; by their large and frequent gatherings for the promotion of social and scientific interests; by their current literature, and by the way in which it had forwarded those interests, and by the valuable and increasing efforts of research which the Association more and more supports and fosters. The influence of the *Lancet* also came in for notice, the President observing that the services which this remakable journal, after it had conquered its own independence, rendered to free medicine in the earlier days of its existence, amidst all its faults, failings, and even vices, were simply incalculable. Monopolies destroyed, hole and corner meetings, and doings of the corporations for the benefit of the few to the detriment and exclusion of the many, exposed, pompous ignorance and overbearing imbecility held up to scorn, the oppressed and obscure, but honest and industrious seeker after truth brought to the front. After a time, feeling its growing strength, this brave journal attacked the Legislature itself. And it was time. Its apathy towards all that concerned the interests of our profession, displayed in the tolerance of the most abominable abuses and monopolies in high places; its utter neglect of the public health, the farce of the Coroners' Courts, its winking at the atrocious adulterations of the people's food, its inhuman neglect of the sick poor, and its disregard of all decency in respect of the burial of the dead; these abuses were one by one attacked, and their authors and abettors lashed with a pitiless and unsparing hand, until redress and reform were grudgingly conceded." The good work done by the *Review* was also recognized.

In the second part of his address Dr. Strange said: "Looking upon the evolution of the medical mind as a continuous process, coming from whence we started, and going we know not whither, what are its characteristics at the present time? The first and noblest of them, I opine, is the love of liberty. Freedom to think, freedom to speak, freedom to write, freedom to teach. Fortunately for us, we have no thirty-nine articles to subscribe. We have no senate to revise and overrule the decision of the commonalty of medicine, no courts of appeal like our friends the lawers. Let us never relinquish into the hands of the State the decision as to what shall be the kind and amount of our knowledge on entering our profession, or in what way, and under what restrictions, we shall conduct our experiments and enquiries into the laws of nature for the good of mankind, or in what manner, and for what reward, we shall carry our knowledge to the bedsides of our patients, be they the rich in their mansions or the poor in our hospitals, or in what way we shall regulate our mutual intercourse. A second grand characteristic of modern medicine, I take leave to say, is philanthropy. By this term I do not mean to say merely that we are animated by the love of our species at large, by the common readiness to do good to our neighbor when opportunity presents itself, but that our profession is *ever* seeking out by toil of body and study of mind, *new* modes of relieving human pain and misery, that it ignores its own material advantage whenever that is placed in opposition to the good of our patients, or of our neighbors, and that it ever seeks to promulgate, against its own material interests, the doctrine 'that prevention is better than cure.'

"What remained to complete the Christian trial was truth—truth to Nature, truth to themselves, truth to their brethren, and to the world. If theories were pushed to an extravagant degree in order to bolster up some preconceived idea; if researches, which should be conducted only under the dry light of truth, were warped and strained to support a trembling reputation, truth must suffer." In this connection the President discountenanced the hasty publication, in the lay press, of so-called discoveries and improvements in practice, urging that, until the support of long-continued observation and experience was gained, publication should be restricted to the professional press. He also advocated the prosecution of knowledge by combined observation.

Then came a long report of the Council, and a discussion thereon. This part of the proceedings was quite as noisy and disorderly as usual. Dr. Milner Fothergill was to have moved a resolution in favor of having the editor of the Journal appointed for five years only, but for some reason best known to himself he kept away, and so the question is postponed till next year.

The question of the best means of excluding homœopaths came up for discussion, and it was wisely decided to rigidly prevent any of these irregular practitioners from entering the Association by any of its portals, but not to expel any who might have accidentally got in, and have been perverted to this heresy since admission. Following this was a noisy and excited discussion on a motion to introduce fresh blood into the Journal and Finance Committee, which is the real governing body of the whole Association, and which is reëlected year after year, and is consequently very conservative. The attempt was in great part successful.

This morning Dr. Wade, of Birmingham, delivered the Address on Medicine, of which this is an abstract:

Dr. Wade, in the course of his Address, gave a survey of the progress which had been made in the practice of medicine during the last fifty years. After showing the great advance which had been made upon the old theories, more especially with regard to bloodletting, which had been exploded, and the manner in which disease was now treated, he remarked that a dispassionate survey of present medical practice forced him to the conclusion that on a very large scale, and in both chronic disorder and organic disease the physiological basis of treatment was too often unduly subordinated to the restorative basis of treatment. He beseeched them to analyze each for himself, and in his own way, the conceptions and the practices of those who had gone before. The lessons he had been trying to enforce were no new ones; the doctrines they embodied had underlain the actions of all the great practitioners of the past. He ventured to think they ought to be assimilated by all practitioners in the future. The greater their advances in the science of anatomy, physiology, and pathology, the more need was there that their powers of observation should be sharpened, refined, and sensitized, for in the same proportion would new suggestions arise of modes in which this

knowledge might be transmuted into means of influencing the processes of disease. To each one was given to render the practice of medicine more rational, more common sense, because more truly scientific, to render more rare in the future such dark blots as they had regretfully recognized in the past.

At 1.30, five hundred members were entertained at luncheon by the Worcester and Hereford Branch of the Association, and the opportunity was taken to present a bust of Sir Charles Hastings to the Mayor and Corporation of Worcester. G. W. Hastings, Esq., M. P., gave some reminiscences of his father, which were very interesting, and although he had to tell of his many excellences, his great devotion to science and to duty, he skilfully avoided any mere eulogy. At 3 o'clock the Sections met. The number of Sections vary from year to year; this year we have eight, a full number. The President of each Section opened the proceedings with a short address. My space only allows me to speak very briefly of the Sectional work.

Dr. Clifford Allbutt, of Leeds, opened the *Medical Section* by an address on some of the more recent changes in medicine won, he asserted, by unity, and freedom of thought, chief of which he placed the discovery that force and matter are but one subject under two names. He then went on to point out the great importance of a deeper knowledge of the genesis of disease with a view to its prevention. Subsequently there was a discussion on the "systematic treatment of aggravated hysteria and allied forms of neurasthenic disease" opened by Dr. Playfair, who has been largely practising Dr. Weir Mitchell's rest-cure treatment.

For the *Surgical Section*, Mr. Pritchard, of Bristol, spoke of some of the changes in surgical practice during fifty years, and he particularly insisted on the value of counter-irritation by means of setons and issues, and of the median operation of lithotomy.

Mr. Greig Smith, of Bristol, read a paper on the *Early Treatment of Strumous Disease of Joints*. This, he stated, had two varieties—the one beginning as pulpy synovitis, the other as destructive inflammation of the joint marrow of articulated bone. For the former he advocated the free incision of the joint and the entire removal of all the pulpy tissue, to be followed by aseptic drainage of the joint. For the latter he recommended incision down to the bone, and removal by the gouge of all the inflamed bone. Both operations should be done with strict Listerian precautions. He asserted that, by these means, many cases of excision might be prevented, and recovery with perfect movement of the joints be secured.

Then followed a discussion on the *Treatment of Fracture of the Patella*, in which the Leeds surgeons (Wheelhouse, Teale, and Jessop) especially took part. The outcome was that for compound fracture, even when *very severe* and complicated, and for cases of useless joint from badly united fracture, suture of the fragments with strict aseptic precautions was the proper course to pursue, as it was not dangerous and gave excellent results in bony union.

Mr. Reginald Harrison showed the fragments of a phosphatic vesical calculus removed at one sitting by *litholapaxy*, weighing over two ounces. Mr. Gould showed a photograph of a stone removed by Dr. Bigelow in the same way which weighed over three ounces, and he mentioned a case recently under his own care in which he attempted to crush a stone weighing two and a half ounces, by Dr. Bigelow's new strong lithotrite, but failed owing to the inability of even this powerful instrument to crush it—he therefore had to cut the man, and he pointed out that there was therefore a limit to the cases in which lithotrity was practicable, The stone was an unusually hard uric acid one.

In the *Section of Public Medicine*, Dr. A. Carpenter referred to the work of the founders of the Association in this department, as recorded in the early volumes of the Transactions of the Association.

In the *Section of Anatomy and Physiology*, Prof. G. Humphry (Cambridge) opened by an address on the great value of the study of anatomy from an educational point of view, and then insisted that it should be combined with a study of the mechanics of the body, and the relations of the particular forms of structures to their special uses, and their most frequent injuries and diseases. Some rare abnormalities of the alimentary and genito-urinary organs were shown.

In the *Section on Pathology*, Dr. Hughlings Jackson (London) presided, and spoke of the great value of post-mortem examinations, and urged upon general practitioners the importance of losing no opportunity of witnessing them. In consequence of their infrequency in private practice, he suggested that the doctors of a district should associate and each give notice to the others when he was called upon to make an autopsy for the coroner or when he could have the presence of his fellows. A discussion on the *Pathology of Diabetes* followed, and specimens of minute changes in the cord and brain were shown under the microscope.

At six o'clock the Irish Medical Graduates dined together. In the evening a special service was held in the Cathedral, and Haydn's Creation was performed by the splendid choir. The fine building was crowded by a delighted audience. At the close a collection on behalf of the British Medical Benevolent Fund was taken.

Postscript.—Thursday, Aug. 9. At 8 A.M., about three hundred of us were entertained at breakfast by the National Temperance League, and appropriate addresses were delivered. To-day we have the Address in Surgery, further meetings of all the Sections, and the Annual Dinner in the evening. To-morrow the Sections meet in the morning, and then we all give ourselves up to amusements. But of all this I must write you next week.

PRESIDENT GARFIELD'S CASE.

To the Editor of The Medical News.

Sir: I beg leave briefly to call attention to some statements in the article of Dr. Baker, published in The News of July 29, which may mislead those of your readers who have not carefully looked into the matter, and which, had it not been for my unavoidable absence from town, I would have corrected at once.

1st. In describing the diagram of the Baltimore and Potomac Railway depot as having been "reduced from the copy used in the trial," he neglects to state that the dots indicating the positions of the President, the assassin, and some of the witnesses—the only points under discussion—were introduced by himself, or by some one, subsequent to the trial, and did not constitute part of the evidence. The diagram as published by him, and the theory of the shooting which he formed upon it, are, therefore, in no sense official. On the contrary, I am assured authoritatively that the prosecution was entirely convinced that the *first* was the fatal ball.

2d. The value of Dr. Baker's attempts to prove that the President turned to the right *after* the first shot was fired, depends altogether upon the truth of his assumption that the second shot was the fatal one. That this was not the case, is proven by the immediate evidence of serious injury given by the President after the first shot was received, and particularly by the fact, as to which there is no conflict of evidence, that after that shot, and while he was sinking to the floor, he threw

up his hands. Knowing this, it is easy to account for the wound upon the outer aspect of the left forearm, extending from the radio-humeral articulation for several inches in a direction parallel with the long axis of the radius, and corresponding exactly with the cut in the coat-sleeve. It is evident that this could only have been inflicted while the arm was raised, and, therefore, that it must have been caused by the second shot.

If any further evidence were needed in addition to these facts, and to the circumstance that the attending surgeons, with all the testimony obtainable immediately after the shooting, and the prosecuting attorneys with the additional information developed during the trial, were convinced that the first shot was the fatal one, such evidence may be obtained by reference to pages 121, 137, 151, 152, 169, 192, and 193 of the Official Report of the Trial of Guiteau. That any one could be willing, in the face of this testimony, and of the facts I have mentioned, to assert that "it is certain the second shot was the fatal one," is to me inexplicable. Dr. Baker's entire theory, together with his alleged ante-mortem diagnosis, and his criticism of the treatment, depends on his accuracy in regard to this point; it might have been supposed that he would exercise great care as to his premises before venturing to discuss the treatment of a patient he had never seen, and to differ with what he himself calls "the best surgical talent of the country."

Some minor inaccuracies may be mentioned as tending also to give rise to erroneous impressions regarding several interesting points.

3d. When Dr. Baker quoted the "general rule laid down by Hamilton, that conical balls usually go straight to their destination," he should have added that *rifle* balls were meant, and when he speaks of the "inadequacy of any soft tissue to stop a ball of forty-four calibre, fired with twenty-two grains of powder at six feet range," he should explain whether or not he regards two resilient ribs as in any way entering into the problem.

4th. Every surgeon who has had even moderate experience with gunshot wounds of the abdomen, knows how almost invariably vomiting occurs after such wounds, and would hesitate before asserting that on account of that symptom there had been "an injury to the solar plexus."

As to the internal hemorrhage, which Dr. Baker says was indicated by the "peculiar thready character of the pulse," and which he infers must have come from towards the spine, because "the vessels" lie there, the argument seems scarcely worth alluding to. It was impossible to say where the bleeding came from. It might have been an intercostal artery or some large muscular branch, as *all* the vessels do not "lie towards the spine," and at any rate, having ceased, it would have been contrary to all sound surgical practice to have disturbed the wound at the risk of renewing it. As to the removal of the small fragment of rib, any attempt to do this might have reopened a wound of an intercostal vessel, or have made one if it did not already exist, and have thus added a serious, possibly a fatal, complication to the case.

5th. Dr. Baker's statement of the elementary anatomy of the cœliac axis, the pancreas, and the splenic artery has no bearing on the interesting question as to the mode of production of the aneurism. The *fact* is that there were numbers of small granules of bone on the left side of the spine near the splenic artery, and that they were seen and spoken of at the time of the autopsy. Of course, they were perfectly competent to give rise to inflammation or other lesion of the artery.

6th. Neither have the cases quoted by Dr. Baker any relation whatever to that of President Garfield, or to my assertion that *perforating* gunshot wounds of bodies of vertebræ have invariably proved fatal. The writer, in the *Lancet* of May 27th, who after quoting Dr. Gaillard's case, added that it showed conclusively that "a gunshot wound of the body of a vertebra is not necessarily a fatal injury, as was hastily and unwarrantably stated in reference to President Garfield's case," committed a gross inaccuracy. Dr. Baker does not reiterate this absurd statement, but quotes it without comment, permitting the uninformed reader to suppose that it coincides with his views, although, of course, having studied the subject, he is aware of its essential falsity.

7th. As to several other assertions of Dr. Baker, the contradictory evidence is perfectly clear and conclusive. Dr. Lincoln was *not* with the President "most of the time on the day of the shooting," but only for a few minutes. The hyperæsthesia was *always* more severe in the right than in the left foot, and extended some distance up the leg, being far more intense upon the dorsal than upon the plantar surface; the tenderness did *not* extend from the scrotum over the lower abdominal region; the fracture of the rib *was* discovered at the first examination; the deflections of the ball before reaching the vertebra *were* confirmed by the official report of the autopsy; the testimony is *not* unanimous as to the directness of the second shot, nor does it, when read in its entirety, establish even a presumption in favor of any of the conclusions which Dr. Baker draws in reference to that shot.

8th. One or two opinions which he attributes to me in reference to the relative position of the wound of entrance and the fracture of the eleventh rib, and in regard to the enlargement of the wound and removal of the splinters, were certainly not contained in my paper. As in the question of the prognosis in perforating wounds of vertebræ, Dr. Baker might have spared himself some trouble if he had replied merely to what I did say, and had not supplied me with theories which neither I, nor as far as I know, any one else, ever believed in.

It seems to me, however, that "nothing could more strikingly illustrate the difficulty which physicians at a distance have in understanding this fatal case," than the difficulties which evidently surrounded those who had the advantage of living within a mile or two of the sick chamber.

I recognized so fully the impropriety of discussing a case with which I had no professional relation, that I did not venture to write upon the subject until I was assured that any errors arising from my want of personal acquaintance with the case would be corrected by my friend and teacher, Dr. Agnew; a similar supervision might perhaps have improved, though possibly somewhat shortened, Dr. Baker's excellent article.

Yours, very truly,

J. WILLIAM WHITE.

PHILADELPHIA, August 21, 1882.

RESUSCITATION OF THE DROWNED.

To the Editor of THE MEDICAL NEWS.

SIR: In your remarks upon the above subject, in the issue of THE MEDICAL NEWS of August 12th, you omit to mention a "method" which, in the experience of several physicians, has proven to be of much more value in the resuscitation of the drowned than any of those to which you allude. I refer to what I call the "speedy method" in asphyxia; and, as you seem willing to procure and to lay *facts* before the profession, I would respectfully call your attention to it, as it has been successfully applied in asphyxia of the neonatus in hundreds of instances within the past twelve years; and in that of drowned persons, in more than a

dozen cases, during the same period. You will find an article on "A Speedy Method in Asphyxia" in the January, 1880, issue of *The Independent Practitioner* (vol. i., No. 1, p. 11), published, at that time, in this city; and in the *Medical Record*, of New York, also. I feel confident that a perusal of the mode of practising it will satisfy you that it should be more generally known, and that it is *in no wise* inferior to *any* of the other known "methods!" It would, indeed, be an easy matter to find a large number of intelligent medical gentlemen here, and elsewhere, who regard it as *superior to any other* in the treatment of asphyxia of the neonatus; and all of those who have resorted to its use in cases of the drowned, regard it most favorably. I feel satisfied that your great interest in the profession, and in the preservation of human life, will cause you to give a knowledge of it the advantage of your large circulation, so that it may take the place to which it is entitled among the resources of those whose office it is to treat the asphyxiated.

I am, very respectfully, yours,

HARVEY L. BYRD, M. D.

127 N. ARLINGTON AVENUE, BALTIMORE, August 17, 1882.

INSOLUBILITY OF GELATINE CAPSULES.

To the Editor of THE MEDICAL NEWS.

SIR: The subjoined observations were made after free and indiscriminate use of the gelatine capsule, and corresponding facts may be attested by any careful, vigilant practitioner. A point of interest drawn from these notes is, that the cases in which the observations were made were those of young children and old persons, in both of which classes the digestive function is naturally feeble. The appearance of the capsules when ejected was that they had attracted the viscid mucus of the stomach by their natural adhesiveness, and being encased in this, had traversed, unscathed, the remainder of the alimentary tract.

It is not to be understood, however, in the opinion of the writer, that these are the only classes of patients in which the same objections to their use may be not unjustly urged. Individuals of all ages, sick with malarial fevers, in which the gastric and hepatic secretions are more or less suppressed, may fail to respond to remedies given in this way, for the same reasons which explain their inefficiency in the cases noted, although no facts are in my possession to make this statement other than inferential.

1st. No. 1 gelatine capsules containing sulph. quinia may be ejected from the stomach of a child four years old, sick with remittent fever, six hours after administration, the capsule and quinia both undissolved.

2d. No. 1 and No. 2 gelatine capsules containing calomel, Dover's powder, and pulv. rhei, may be discharged from the rectum of a child four years old thirty-two hours after administration, in remittent fevers, the capsules remaining *in situ* and powders undissolved.

3d. No. 3 gelatine capsules containing sulphate of quinia may be discharged from the rectum of a healthy child thirty-six hours after administration, the capsules being *in situ* and contents undissolved.

4th. Gelatine capsules containing various drugs may be discharged from the bowels of a woman fifty to sixty years old twenty-four hours after administration, neither capsules nor contents having been acted on by the gastro-intestinal secretions.

5th. Nos. 1 and 2 gelatine capsules, containing various drugs, may cause by their presence in the bowels of a child four to eight years old, sick with remittent fever, serious cerebral symptoms, to which the condition of the circulation indicates no claim.

The foregoing observations have been made with gelatine capsules manufactured by Parke, Davis & Co.

Respectfully yours,

R. T. BYRD, M.D.

BOLIGEE, ALA., July 28, 1882.

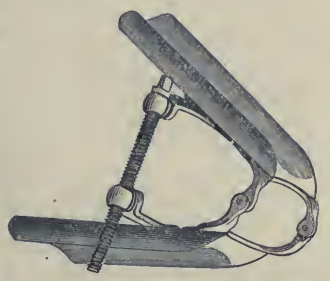
NEW INVENTIONS.

A NEW SPLINT TO REPLACE THE STROMEYER.

BY W. W. KEEN, M.D.,

SURGEON TO ST. MARY'S HOSPITAL, PHILADELPHIA, ETC.

THE Stromeyer splint can be completely extended, but if *flexion* be desired, it cannot be obtained, since the screw intervenes between the two arms of the splint. This is the first and chief inconvenience of the splint. Moreover, at the joint it very often causes excoriation of the skin by pressure.



Both of these evils are remedied by the form of splint figured above. To remedy the first evil, two metal plates are screwed to the wooden pieces, with lateral projections which carry the screw. The latter cannot then interfere with flexion. Either of the collars through which the screw passes can be made with a thread, and the other without it, if forced motion be desired in only one way. If forced motion in both ways be desired, the lower collar should be free from any thread, the end of the screw being flanged above and below the collar, while the upper collar should have a thread. Each collar is on a pivot, made needful by changes in the relative positions of the two wooden arms in varying degrees of flexion. If complete extension be required, the screw must be long enough to allow of it.

The second evil, pressure, is avoided by the arrangement at the joint. This is sufficiently plain in the engraving, without any further description. Nor is it needful to suggest the cases in which it may be used, as they will readily suggest themselves to any practical surgeon.

NEWS ITEMS.

WHEELING, WEST VIRGINIA.

(*From our Special Correspondent.*)

THE STATE BOARD OF HEALTH OF WEST VIRGINIA; ITS PROGRAMME OF SANITARY WORK.—Having completed the medical registration in conformity to law, the Board is now actively engaged in purely sanitary work. As a ready means of educating the people in sanitary matters, a "Health Primer" is to be published at a very early date—probably by October 1—and distributed broadcast over the State. Two subjects have been assigned each member of the Board for study and report. The following schedule will show the character and scope of the proposed work:

Hon. A. R. Barbee, M.D.—1. Stimulants and Narcotics. 2. Climate, Topography, and Geology.

Geo. H. Carpenter, M.D.—1. What to Eat and How to Cook. 2. The Duty of the Medical Profession.

Lawrence Carr, M.D.—1. How to Resuscitate the Drowned. 2. Diseases and Accidents of Coal Mines.

Wm. M. Late, M.D.—1. The Houses we Live in. 2. Our Domestic Animals and their Diseases.

Geo. B. Moffitt, M.D.—1. How to Nurse the Sick. 2. Drainage and Sewerage of Towns and Cities.

Gabriel McDonald, M.D.—1. Contagious and Infectious Diseases. 2. Country Life and its Exposures.

C. T. Richardson, M.D.—1. Accidents from Explosions and Poisons. 2. Health of Freedmen.

James E. Reeves, M.D.—1. Domiciliary Hygiene. 2. Hygiene of the School-room.

Papers "No. 1" will go into the "Health Primer." Papers "No. 2" are for the next annual report to the Governor, which the law requires shall be made on or before January 1.

VIENNA.

(*From our Special Correspondent.*)

Departure in Therapeutics—Grape Cure in the Volksgarten.—Dr. v. Hibentauz has succeeded in introducing into the Volksgarten an establishment having for its object the cure of numerous diseases through the agency of grapes, variously combined with tannic acid. Much discussion as to the merit of the undertaking is rife among medical circles. The institution will be opened towards the latter part of August, when the grapes begin to ripen.

Ovation to Prof. E. Ludwig.—Prof. Ludwig, who recently received from the Faculty of the University of Vienna the honorary degree of Doctor of Medicine, was tendered, within the last few days, an ovation at the hands of his students. The occasion was a highly enjoyable one, although the Professor's modesty made it a little painful for him, at first.

Dr. Mickulicz.—Dr. Mickulicz, first assistant of Billroth, and Docent of Surgery, has been named as a candidate for the Chair of Surgery vacant in Krakau. Dr. Rydygier, of Culm, who excised the pylorus for ulcer recently, is his most important rival.

Anniversary of the Founding of the University of Würzburg.—The students and authorities of the University of Würzburg will celebrate the three hundredth anniversary of the founding of that famous school, this week. The festivities will be of a very imposing character and will last five days.

Medical "Diploma" from the "University of Philadelphia."—D. Herzl, a dental technologist, was recently summoned to appear before a magistrate in the Inner City, Vienna, and was charged with having drawn teeth without necessary qualifications, and with having furnished the same individual with a set of false teeth, whose spiral spring was made of a composition of copper, nickel, and zinc, plated with gold. The patient deposed that the false teeth occasioned pain in her cheek, produced an unpleasant taste in her mouth, and were otherwise annoying. Medico-legal chemist, Prof. Ludwig, and dentist, Prof. Scheff, were present as experts. Both experts united in the opinion that the effect of the composition metal was in the highest degree injurious. Prof. Scheff stated that the accused was guilty of malpractice in the insertion of a set of false teeth two weeks after the former teeth had been extracted. Under such circumstances three months, at least, should intervene.

The Dental Technologist produced as one and his chief qualification a diploma in medicine from the "*University of Philadelphia.*"

He was found guilty, fined, and placed under arrest.

The Columbus (O.) Medical College.—Dr. J. T. Baldwin, lately Professor of Anatomy in the Columbia Medical College, in a signed letter to the Columbus *Sunday Morning News*, states that the Columbus Medical College graduated a man "who didn't know what the iris was, nor the pupil; could not locate the mitral nor tricuspid valves; placed the valvulæ conniventes in the *brain*, and the ileo-cæcal valve in the *rectum!*" He also says, "I have absolute proof of the graduation of one man who had never attended a previous course of lectures, and who made no claim to have done so;" and "I have been shown a letter, written by the Dean, in which he tells the person addressed that he can graduate by paying half the term fee, all the graduation fee, and passing an examination in Practice, Surgery, and Obstetrics, and that he need not come to lectures *until examination week.*"

Preliminary Examination at the University of Pennsylvania.—The University of Pennsylvania is arranging for the holding of admission examinations to its Medical Department in cities remote from Philadelphia, in order that students residing at a distance may not be discouraged from applying on account of what would seem a useless expense in coming to Philadelphia, in the event of their failure to pass the preliminary examination.

Canada Medical Association.—The next meeting of the Canada Medical Association will be held in Toronto, on the 6th, 7th, and 8th of September, under the Presidency of Dr. Fenwick.

The Italian Medical Congress.—The tenth Italian Medical Congress will be held in Modena early next September. It is expected that His Excellence, Dr. Bacelli, Minister of Public Instruction will be present. At the same time as the Congress, there will be held an Exhibition of Hygienic Appliances, and of objects generally connected with sanitary science.—*Brit. Med. Journ.*, Aug. 5, 1882.

International Congress of Hygiene.—At the meeting of this Congress to be held at Geneva, M. Pasteur will read a paper on the *Attenuation of Virus.*

University of Edinburgh.—At the annual conferring of degrees on August 1, the degrees of M. B. and C. M. were conferred on the largest number of graduates the Edinburgh University has ever sent forth. The degree of M.D. was conferred on thirty-two candidates, and the degrees of M. B. and C. M. on one hundred and eighty-one candidates.

The Philadelphia County Medical Society's Course of Lectures.—The Philadelphia County Medical Society has determined to institute an annual course of lectures on topics in medicine, surgery, and obstetrics, which shall be of general professional interest. The first annual course will be delivered during the ensuing winter by Professor Austin Flint, Sr., who has chosen for his subject, "Practical Points in the Physical Exploration of Visceral Diseases."

Meeting of the American Academy of Medicine.—At a recent meeting of the Council, it was determined to postpone the annual meeting of the Academy until Thursday, October 26th, when it will be held at Philadelphia, at the time of the Bicentennial Celebration in that city.

Cure of Diphtheria.—M. and Mme. St. Paul have offered to the French Academy the sum of 25,000 francs as a prize to be awarded to the person, without distinc-

tion as to nationality or profession, who shall discover an efficacious and sovereign remedy for diphtheria, the Academy deciding as to the merits of the claim. Until the discovery of this remedy, the interest of this sum is to be granted biennially by the Academy to those whose essays on diphtheria seem to deserve recompense. Six memoirs have already been presented, but were not deemed worthy of the prize.—*Gazette Méd. de Paris*, August 5, 1882.

Ross on the Nervous System.—In its review on Ross on "The Diseases of the Nervous System," the *Edinburgh Medical Journal* (July, 1882) shows where the author's ignorance of German, and his unfortunate habit of not giving credit for what he borrowed, lead him to make an amusing mistake. "The case of Sterne," he says, "who saw distinctly the satellites of Jupiter with the naked eyes, is a good example of optic hyperæsthesia" (p. 313, vol. i.). Sterne—there is only one Sterne—was a very clever and amusing fellow, but we never heard before of his sharp sight, and as he died in 1768, this is just a statement which ought to have a reference to confirm it. Unluckily for Ross, we have accidentally fallen upon this reference. Here it is: "Ich erinnere nur an die Beobachtungen, dass Sterne siebenter Grösse und die Jupiterstrabanten mit blossem Auge deutlich erkannt wurden" (I am reminded of the observation that stars of the seventh magnitude and the satellites of Jupiter can be seen with the naked eye).—Eulenburg, *Lehrbuch*, etc., S. 321. The fact is quite as remarkable as before, but it loses much of its interest with the loss of the personality, "Sterne" being not, like "David," a man's name, but only the German for "stars," "siebenter Grösse," of the seventh magnitude. Ross must have been sorely exercised in his mind with this "siebenter Grösse." What on earth decided him to cast it aside?

Literary Notes.—We hear that Princess Christian, of England, is translating into English Prof. Esmarch's work, *Erste Hülfe bei plotzlichen Unglücksfällen*.

The Dictionary of Medicine, about to be published by Messrs. Longmans, will be issued early in October. It will form a volume of 1800 pages and numbers more than 200 contributors.

Foster's Physiology has been translated into Italian by M. Lessona, of Milan.

Dr. J. W. Little has just published a work on the *Medical and Surgical Aspects of Genu Valgum*, which he gracefully dedicates "To Professor Gross, M.D., D.C.L., etc. etc., Father of Surgery in America, an enlightened and honorable example of all that is noble in our profession, and to his medical and surgical brethren, in grateful acknowledgment of their cordial reception of him when on a visit to the United States in 1878, this work is inscribed by the author."

Statistics of Medical Journalism.—According to Dr. A. Dureau, one of the librarians of the French Académie de Médecine, the number of medical journals published at stated intervals in Paris is 95, and in the colonies 52, total 147.

The German Confederation publishes 133 journals, Great Britain 69, Austria 54, Italy 51, Belgium 28, Spain 26, Russia 26, Holland 16, Switzerland 10, Sweden and Norway 9, Denmark 5, Portugal 4, Danubian Principalities 4, Turkey 2, Greece 1. Total for Europe 583.

In America 183 journals are published, in Asia 15, in Oceanica 2. Total for all countries, 785.

The number of journals founded since 1679 exceeds 2500.—*Revue de Thérapeutique*, August 1, 1882.

The Salmon-disease and its Lessons.—Prof. Huxley has published some observations on the epidemic known as the Salmon-disease in the *Proceedings of the Royal Society*. The disease, as is well known, is produced by the growth of a parasitic fungus, and Prof. Huxley looks upon it as a disease of the same order as ringworm in the human subject, as the muscardine of silkworms, and the potato-disease. This fungus, which belongs to the order *Saprolegnia*, finds a suitable nidus in the skin of that part of the body which is devoid of scales, and generally first attacks the top and sides of the head; thence it may extend widely over the scaly surface also, and deeply into the true skin, causing extensive ulceration and sloughing, so that "one vast open sore may cover the top of the head from the snout to the nape, and may extend over the gill-covers." Several points of general interest have come out in the course of the inquiry; one of these is, that the fungus does not attack the viscera, so that the flesh of the diseased fish is probably not injurious in any way; and it has been said, by those who have made the experiment, that the palate can detect no difference between it and the flesh of healthy fish. This applies probably only to the early stage; for when death—which is produced by exhaustion—is approaching, the flesh no doubt deteriorates in quality. Another interesting point is the manner in which the sloughing of the true skin is produced. The fungus at first attacks the cuticle, but, after it has taken root there, it sends processes (hyphæ) downwards into the true derma; these processes branch laterally in every direction, and gradually extend deeper and deeper. The tracks of these hyphæ are not accompanied by any obvious inflammation; but they are so closely set, that they mechanically interfere with the nutrition of the part, and so lead to sloughing. The third point to which we wish to draw attention is, that the fungus is essentially a saprophyte—*i. e.*, it ordinarily finds its nidus in dead animal or vegetable tissues, and is only occasionally a parasite upon living organisms. Every stream in the kingdom probably contains indefinite quantities of this and allied fungi, which grow readily on the bodies of dead flies and other insects. Prof. Huxley thus arrives at a conclusion with regard to this disease, analogous to that to which the student of human pathology is often brought in the case of many infectious diseases—namely, that, though the parasitic organism may be the determining cause of the train of symptoms which come under observation, there are other, and as yet unknown, circumstances, extrinsic or intrinsic to the infected animal, in the absence of which the parasite cannot develop.—*Brit. Med. Journal*, Aug. 5, 1882.

Perils of the Hot-air Bath.—The hot-air bath, in all its varieties of construction and arrangement, is a powerful agent for the disturbance of the circulatory system. The change effected may be good, or it may be bad, for the subject; but it can scarcely be inoperative. The heart's action is quickened; the tension of the blood-pressure is at first heightened, and then—if copious perspiration take place—it may be reduced. Speaking generally, there is a determination of the blood to the surface, leaving the central and deep organs less fully supplied than before. In this way, doubtless, local congestions are occasionally relieved by the bath. Under ordinary circumstances, the change effected in the distribution of blood and pressure is likely to be beneficial, but if the heart be weak, or the larger vessels rigid, it may happen that faintness ensues. Then something is done, either by the affusion of cold water on the extremities, or in one or more of several empirical ways, to drive the blood in again, and this endeavor may prove the last strain that throws the whole physico-vital apparatus of the circulation out of working order, and renders the continuance of the essential functions of life difficult or even impossi-

ble. We believe the Turkish bath to be a most potent and, when rightly managed, useful agent for the control of the circulation; but it is necessary to warn the public against the reckless use made of it in cases the precise nature and peril of which are not understood. Except by the robust and thoroughly healthy, the hot-air bath should on no account be employed without express medical approval. Even this restriction is scarcely enough, because it may happen that the subject of a weak heart or abnormal bloodvessels regards himself as healthy, until the unaccustomed demand made on his organs of circulation by the bath discovers the weak place in his economy. It is not desirable to lay too much stress on those deaths which occasionally occur in, or after a visit to, Turkish baths. They are accidents in the use of the agency, and as such must be regarded as significant. At the same time, it is desirable that the dangers of the bath should be more generally understood than they would seem to be, and that the proprietors of these establishments should be required to instruct their managers and attendants to send at once for medical assistance whenever a visitor becomes faint or even momentarily unconscious. Such occurrences must needs portend peril of death, and, however large may be the proportion of instances in which the "slight faint feeling" or "sleepiness" passes away, it is manifest that a grave risk is in *all* case incurred, and a responsible medical man should be instantly summoned to aid the recovery. There ought to be nothing left to the discretion of the manager or attendant in such a case. Again, although it is easy to see that proprietors would prefer to avoid deaths on their premises, no person who has been ill or even slightly unwell in the bath should be allowed to leave the establishment without being seen by a doctor. Further, we think the practice of *sleeping* in the hot rooms ought to be interdicted. There is always danger at the moment of awakening.—*Lancet*, July 22, 1882.

ANECDOTE OF NÉLATON.—Dr. Caradec gives, in the *Union Médicale*, July 2d, the following anecdote of Nélaton as authentic: A pet dog of the painter Meissonier one day broke one of his legs, rendered friable by over-feeding. Meissonier, desolated by such an accident to so beloved an animal, resolved to have recourse to the prince of surgical science, who at that time was Nélaton; but not venturing to declare the true motive, he telegraphed in hot haste for him as if to visit one of the family, then living at their charming residence at Bougival. Nélaton arrived, and entering the drawing-room, began talking on various topics with the master of the house, who, although he had painted many battles and carried off many victories, knew not how to face the present affair. At last Nélaton, becoming impatient at the delay, and knowing the value of his time, asked, to the great embarrassment of the painter, where the patient was. Presently the wounded brute was brought in on a magnificent cushion, howling with pain in spite of all the care taken. At so distressing a spectacle, Meissonier, forgetting everything else, exclaimed in agony, "Save him! illustrious master, save him!" Nélaton dressed the fracture, and the dog recovered; and shortly afterwards its master wrote a grateful letter to the great surgeon, thanking him for his kindness, and requesting to know his fee. Nélaton replied that when the painter came to Paris he could call upon him. This he soon did, and was producing his purse crammed with bank-notes, when Nélaton exclaimed, "Stop, sir! you are a painter, are you not? Just put a gray coating on these two panels which the cabinet-makers have finished!" This was indeed a delicate revenge; but which had the last word? Meissonier, who, going at once to work, at the end of a few days produced two of his *chefs-d'œvre* on the panels.—*Medical Times and Gazette*, July 22, 1882.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending August 12, 1882, indicate that bronchitis considerably increased, that consumption, neuralgia, tonsillitis, dysentery, and intermittent fever increased in area of prevalence. There was no marked decrease in any disease reported. Yet, compared with reports in preceding years, the sickness from intermittent fever, diarrhœa, dysentery, and typhoid fever, seems to be much less now than is usual at this time of year.

Including reports by regular observers and by others, diphtheria was reported present during the week ending August 12, and since, at 17 places, scarlet fever at 11 places, measles at 6 places, and small-pox at 14 places, as follows: In Walker Township, Kent Co., August 7; in Ionia Township, Ionia Co., near Carson City, in Westwood, Kalkaska Co., and at Custer, Antrim Co., August 10; at Detroit, Flint (2 new cases), Marquette (1 case), August 12; at Grand Rapids (4 cases), and Portland (1 new case), August 14; in Montrose Township, Genesee Co., August 15; in Danby Township, Orange and Sebewa, Ionia Co., August 16.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 15 TO AUGUST 21, 1882.

MURRAY, ROBERT, *Colonel and Surgeon.*—Relieved from duty as Medical Director Military Division of the Missouri, and to report in person to the Commanding General Military Division of the Atlantic and Department of the East for duty as Medical Director of that division and department.—*S. O. 191, A. G. O., August 18, 1882.*

BILLINGS, JNO. S., *Major and Surgeon.*—By direction of the President, relieved from duty as a member of the National Board of Health.—*S. O. 190, A. G. O., August 17, 1882.*

HUBBARD, V. B., *Major and Surgeon.*—Now awaiting orders, to report in person to the Commanding General Department of the Missouri for assignment to duty.—*S. O. 186, A. G. O., August 11, 1882.*

SMART, CHAS., *Major and Surgeon.*—By direction of the President, detailed as a member of the National Board of Health, organized under Act approved March 3, 1879, *vice* Major Billings, Surgeon, relieved,—*S. O. 190, c. s., A. G. O.*

BYRNE, CHAS. B., *Captain and Assistant Surgeon.*—The leave of absence granted him in S. O. 68, July 12, 1882, Department of the South, is extended two months.—*S. O. 189, A. G. O., August 16, 1882.*

SENIG, B. G., *Captain and Assistant Surgeon.*—To be relieved from duty in Department of the Platte, and, on expiration of his leave of absence on Surgeon's certificate of disability, granted him in S. O. 121, c. s., A. G. O., to report by letter to the Surgeon-General.—*S. O. 186, c. s., A. G. O.*

TAYLOR, M. E., *Captain and Assistant Surgeon.*—Granted leave of absence for four months.—*S. O. 188, c. s., A. G. O.*

SPENCER, WM. G., *Captain and Assistant Surgeon.*—The leave of absence granted him in S. O. 80, April 7, 1882, from A. G. O., is extended two months.—*S. O. 191. c. s., A. G. O.*

MACAULEY, C. N. B., *First Lieutenant and Assistant Surgeon.*—Appointed Assistant Surgeon, to date from August 10, 1882.

CHERBONNIER, A. V., *Captain and Medical Storekeeper.*—Upon expiration of his present sick leave of absence, to report in person to Lieutenant-Colonel E. Swift, Assistant Medical Purveyor, New York City, for duty in the medical purveying depot in that city.—*S. O. 188, A. G. O., August 14, 1882.*

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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ORIGINAL LECTURES.

ACUTE CATARRH OF THE MIDDLE EAR.

Two Lectures.

BY OREN D. POMEROY, M.D.,

SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL, NEW YORK.

LECTURE I.

GENTLEMEN: This affection is an inflammation of the drum cavity and Eustachian tube, of an essentially catarrhal nature. That is, it is of the milder order of inflammations of a mucous membrane, the products of the inflammation being only serum or mucus. The same inflammation intensified so as to produce a purulent discharge, is placed in the category of purulent inflammations.

Acute catarrh of the tympanum shows comparatively little tendency to destroy tissue, as is the case in the purulent disease, and as a result the membrana tympani is frequently not perforated, as is the rule in the other form. If the membrane is perforated, it is not likely to be the result of ulceration, which might produce a large opening, as in the purulent form, but rather of pressure from inflammatory products in the tympanum, and a fissure-like perforation, which rapidly heals, is likely to be the result. Inflammatory proliferation is much more likely to result than disorganization.

This affection is usually developed from some form of throat trouble, but may also depend on causes located externally. It may attack both ears simultaneously, but is more likely to attack the second ear, one or several days after the first. It may again attack one ear alone, but as the condition of the throat is usually at the bottom of the matter, sooner or later both ears are likely to be involved.

The attack generally comes on towards evening or in the night, the symptoms subsiding by morning, to recur again on the next evening unless interrupted by treatment. Its tendency to return whenever there is exposure to cold, or when the patient has been irregular in his habits, is well enough known. This is one of its most serious features, and often leaves the patient in a state of incurable deafness, unless great care is taken to treat symptoms promptly as they arise.

The subjective symptoms are about as follows: In a given case there may be a sore throat that has existed for a few hours or days, when a painful sensation is felt in one side of the throat, on which there may have been the greatest amount of trouble, which passes up the Eustachian tube towards the ear. After a little time the ear may have a full or stuffed feeling, which may be converted into a violent throbbing pain. The voice of the patient will sound hollow and out of pitch, the patient *feeling* it unpleasantly in the ear, for precisely the same reason that the tuning fork on the teeth is heard better in the ear affected with middle ear disease. Dr. Sexton, of New York, has called this symptom autophony.

The pain goes on, in a severe case, to a most intense degree, until secretion is inaugurated, or the membrane is perforated, when, with many premonitory loud crackling sounds, which may send sharp, darting pains through the ear, relief is experienced. I infer that the crackling sound depends on interchange of air between the throat and the tympanum. In very mild cases where there is scarcely any actual pain, this crackling is the most noticeable symptom of all. The Eustachian tube normally is nearly or quite closed in a state of quiesence, and by its valve-like faucial extremity resists to some extent the passage of air from the throat to the tympanum. When in a catarrhal condition, if the inflammation be not too intense there seems to be a relaxation of the tissue about the mouth of the tube, or the swelling of the lips of the tube prevents exact coaptation, and the consequence is that air is forced in or drawn out of the tympanum, causing this crackling sound. In other words, the tube is easily *forced*, and it will be found that Valsalva's operation is more readily performed than even in the normal state. Anything that condenses the air in the upper pharyngeal space will produce this symptom, as sneezing, coughing, blowing the nose, rapid expiration, especially if done through nostrils of narrowed calibre—which is likely to occur from the rhinitis so often accompanying this disease—eructations from the stomach, etc. When air is forced in with violence, much pain may be occasioned. On the other hand, rapid inspirations, especially if done through narrowed nostrils, rarefies the air in the upper pharynx, and air is forced from the tympanum into the throat.

When the auricle is pulled upon there is likely to be little or no pain, as the meatus and region about the concha are less frequently involved than in the severer forms of suppurative disease. Movements of the jaws, deglutition, sneezing, coughing, or talking, are often painful. If there are severe throat complications, the swallowing of cold water may cause exquisite pain. Movements of the head from side to side are often painful. There may be tenderness in the scalp, and pain in the side or back part of the head. Occasionally in the severer forms of the disease, there may be pain and tenderness in the mastoid region. The pain in the ear may extend forward to the teeth, and, indeed, may be more intense there than in the ear, just as in carious and painful teeth, the sensation may often be only in the ear. It is due to the fact that filaments of the fifth nerve are distributed both to the ear and teeth. In milder forms of the disease there may scarcely be any disagreeable symptoms except itching, deep in the meatus, which the patient often effects to relieve by scratching or thrusting his finger deeply into the ear, which frequently occasions throbbing and often results in much pain, with great aggravation of what were mild symptoms.

Sometimes the pain in the ear depends solely on the pressure of air upon the outer surface of the membrane the result of an insufficient pressure upon the opposite side. This is brought about by closure of the Eustachian tube, the consequences of the disease, the residual air in the tympanum soon becoming absorbed. There is great rarefaction of the air, amounting almost to a vacuum, and the membrane pushes the ossicles sharply inward, and the labyrinth waters are compressed by the settling of the base of the stapes into the oval window. I one time heard that Dr. T. G. Thomas was so interested in the result of an inflation of the tympanum in the person of his coachman, that he related the case before his class. The man had a mild form of tubal catarrh, which caused great pain. This was instantaneously relieved by Politzer's inflation. This pressure, incident to a collapsed membrana tympani, sometimes produces a feeling of fulness in the ear, difficult to diagnosticate from that of hyperæmia.

Deafness.—In the outset, before hyperæmia becomes excessive, and the parts are absolutely free from secretion, the ear being in a state in which irritation seems to predominate over inflammation, the hearing may be either morbidly acute, or sounds may seem to be heard with painful distinctness. Very soon a slight diminution of hearing is observed, or it becomes so profound that loudly spoken words cannot be distinguished. The deafness results from the following conditions: hyperæmia of the tympanum, producing pressure upon every portion of the contents of the tympanum, impeding the vibrations of the membrana and ossicula. This congestion may also extend to the labyrinth, and interfere with the function of the acousticus, for the time causing true nervous deafness, which may be recognized by the tuning fork.

Again, after the stage of secretion commences, the tympanum becomes more or less filled with the products of inflammation, which obstruct hearing by the retardation of vibrations. Naturally, filling the tympanum full, with bulging of the membrane, would produce profound deafness; but it has been found that a small amount of secretion may much retard hearing. I once removed one or two drops of serum from the tympanum by paracentesis and inflation, and the hearing was astonishingly improved. I believe that the smallest amount of mucus, resting on the round window, will interfere noticeably with the hearing, or any clogging of the movements of the base of the stapes by the same process will also much interrupt its function. Even if mucus smears the inner surface of the membrana tympani, and clings to the ossicles, there is interruption to free vibrations sufficient to cause deafness. There is another cause of deafness, more important than any I have mentioned—that is, the sinking of the membrana tympani, in consequence of closure of the Eustachian tube. In consequence of this collapse, the membrana tympani is put upon the stretch, the ossicles are crowded together, the base of the stirrup is driven into the oval window, the labyrinth waters are pressed upon, and the membrane of the round window may be pressed towards the tympanum.

Here are two causes of deafness, first, the interference of free vibrations of the apparatus of the middle ear by this pressure, and second, actual pressure upon the labyrinth. Whether this latter acts by pressure directly upon the nerve of hearing, or by the interference to the conveying of the sonorous undulations incident to increased pressure upon the labyrinth waters, it is hard to say. In my observations on the tuning fork and bone conduction, it will be seen that I incline mainly to the opinion that interference in the vibrations of the middle ear mechanism, is the principal factor in the causation of the deafness. The deafness generally comes on suddenly, the patient describing the ear as having suddenly closed up.

From the conditions just described, we have certain extremely disagreeable symptoms, namely, tinnitus aurium, hearing one's own voice too distinctly, which may also have a hollow reverberating sound, a stuffed feeling, or a feeling as though the ear was filled with some foreign substance. The latter symptoms may point indifferently to engorgement of the tympanum or a sunken membrana tympani. Another symptom dependent on pressure is vertigo. It may be so great that the patient has fears of falling out of bed.

Frequently, there may be no fever, and again, there may be a violent febrile movement. Sometimes delirium may be noticed, especially in young children. Many of the symptoms may simulate brain trouble.

Subjective symptoms.—In the first instance, there is likely to be signs of catarrh of the pharynx, with or without pharyngeal or laryngeal symptoms. The upper pharyngeal space is the one to critically examine; for the description of which, see naso-pharyngeal conditions giving rise to ear trouble. Naturally the rhinoscope will be needed here, and other instruments for examining the Eustachian tube. Externally, the meatus may show few signs of disease, except being reddened perhaps, and scruffy. The speculum auris may elicit some tenderness.

The membrana tympani is the important point of observation. It is true there may be a catarrh of the tympanum, without redness of the membrana tympani, provided it be sufficiently mild, but the membrane may show undue brightness of the light spot, from opacity of the mucous layer; hence, the augmented reflection at the umbo. Besides, the membrana tympani will not present the normal pearly-gray translucency, but will look flat or opaque, and of a darkish hue. Where the membrana tympani has become sunken, there will be the following changes: The malleus handle will be too vertical, or too horizontal; it may be drawn inward, giving it a *fore-shortened* appearance, it not appearing to approach to the centre of the membrane, but at a point upward, and generally backward. In consequence of this movement, the short process will be thrown outward, appearing too prominent. The light spot when present, will usually be too small; a better diagnostic, however, is a malposition of the reflex; it will present an acute angle with the anterior border of the malleus handle, or its angle may be too obtuse; it may be too near the centre of the membrana tympani, or be displaced towards the periphery. The folds of the membrana tympani may become greatly exaggerated, especially the anterior fold. The membrane may, sometimes, not be reddened at all. Again, where the mucous layer is intensely reddened, the membrana tympani will be more opaque, and when it still retains some translucency in its outer layers, this color may shine through as a faint dusky red.

The whole membrane may be congested so as to be completely reddened, but not of the intense red color described in suppurative otitis. More likely, however, the redness may be seen about the short process; after a little, a streak of redness may be seen coursing down the malleus handle, from congestion of the manubrial plexus of vessels. With a greater degree of hyperæmia, vessels may be seen shooting from the periphery to join those of the manubrium, when the whole of the membrane may become reddened. It is quite easy to discern individual vessels. Be careful to discriminate between the hyperæmia which is the result of disease, and that which is a consequence of traumatism. Rough handling of the ear in fixing the speculum or violent inflation of the ear will cause considerable redness of the membrane. If a number of persons examine an ear with a pretty hot artificial light, some congestion probably will result; where collection exists in the tympanum, the membrana tympani may bulge; if so, it will be generally found in the posterior superior quadratus and will seem to merge into the meatus; occasionally it may bulge in front as well, and the manubrium will seem to divide the membrane into two portions. If there is not too much congestion, and the outer layer is intact, a light reflex may be seen on the summit of the ectasia.

Again, if there is a collection in the tympanum with no change in the position of the membrana tympani, the light spot being against an opaque fluid will appear excessively bright and even glassy. I have often diagnosticated fluid in the tympanum by this symptom alone. If the subject is not too old with an excessively opaque membrana tympani the fluid may be *seen* through the membrane. It will give the latter a darker hue, perhaps of a yellowish or greenish cast. If there is considerable mobility of the fluid, its level may be changed by tilting the head forward or backward, or

cause it to disappear altogether by turning the head sharply to the opposite side. If inflation is done, the level of the fluid is changed, and often air bubbles may be seen about the top of the fluid, which are somewhat conspicuous.

By the use of Seigle's otoscope a hint may be gained as to the presence of fluid in the tympanum. If the membrana tympani is pushed sharply in, the fluid will rise, or it will recede if the opposite movement is made. The malleus handle fails to make the normal lever-like movement when any considerable collection is present. In rare cases it may be possible to assert that the contents of the tympanum is mucus or blood, by its color, but none but those very expert can determine this. Sometimes the fact of fluid in the tympanum may be elicited by auscultation with the diagnosis tube, a moist rattle or click is heard instead of a dry one, and the bursting of air bubbles in the tympanic fluid will yield a peculiar crepitating râle, which much practice will enable the surgeon to distinguish.

The diagnosis of acute catarrh of the tympanum is sometimes difficult. Very great pain with speedy rupture of the membrana tympani, and a purulent discharge proves that we have the suppurative form. In the mild cases where there is little or no redness of the membrana tympani, with the presence possibly of carious teeth, there will be real difficulty in determining whether the trouble comes from the ear or the teeth; sometimes it will be both. The use of the tuning fork, testing the hearing by other means, and contrasting the amount of hearing before and after inflation, making careful observation as to the presence of fluid in the tympanum, etc., will settle the diagnosis. Where there has been an old catarrh with impairment of the hearing, but which is improved by inflation, it is very difficult to tell whether it is the teeth or the ear which causes the disturbance. I have before now been in doubt, and have caused the teeth to be attended to, and the pain has disappeared. The pain from the ear is often of a neuralgic character, and may be indifferently in the head or ear, and will sometimes mislead us. In such cases it may be found that the pain does not follow the laws of a neuralgia, and some disturbance in the function of the ear may be noted.

In the adult there need be no trouble about mistaking brain symptoms for ear symptoms. In children there is much greater difficulty in diagnosis on account of absence of rational signs. I have, in the person of my own children, made this observation. The child would be restless most of a night, and no cause could be assigned for the trouble, when in the morning a discharge from the ear revealed the correct explanation. I think we are too loth to examine carefully the membranæ of children. In a case of considerable pain in a young subject, naturally we look to the bowels or head, or possible the teeth for the explanation, but if we always have in our mind a suspicion that it may be the ear which causes it, we shall be sufficiently on our guard. In a suspected case, if we do not too much object to do it, a hint may be gained by smelling the ear, when, by its peculiar odor, attention is at once directed to a diseased condition, if there be the slightest discharge. A little harsh handling of the ear may elicit tenderness, pointing to disease. If the patient has throat trouble of any kind, or has present the conditions which may give rise to ear trouble, we are put upon our guard. A little sufferer from ear pain, may reach the hand to the head and indicate the location of the trouble.

In the pneumonia of children, ear complications frequently arise which will give us a hint to inspect the ear when necessary. In examining a suspected ear in a child, even though we find no redness, we find great retraction of the malleus handle, which in children is a more conspicuous symptom than in the adult, and if it is very horizontal, and the opposite ear is normal, we suspect ear trouble. We inflate by Politzer, and the membrana tympani is restored to a more normal position, and the patient may be relieved from suffering, when the diagnosis is pretty well settled. Other means for the relief of pain in the ear may be used, and if they succeed, the fact points to the probability of ear trouble as the cause of the pain.

The causes of acute catarrh of the tympanum are so similar to those of the purulent form that I hardly need go into detail.

The first important factor in the pathogenesis is the inflamed throat. This may be excited by any catarrhal influence whatever.

The exanthemata are always liable to result in ear trouble consequent on the throat complication. Croup and diphtheria produce conditions in the throat liable to cause ear involvement. Some fevers may be accompanied by throat symptoms which sometimes result in ear complications.

Pneumonia and pleurisy are often accompanied by acute ear troubles, which depend, first, on the accompanying throat disease, and second, upon the violent interchange of air between the throat and ear, consequent on the rapid respiration incident to these diseases. This has been already explained. Besides producing labyrinth trouble, syphilis may, by its somewhat constant throat symptom, develop middle ear disease, without necessarily going deeper. Bright's disease, through defective blood vessels, may result in middle ear trouble; but, hemorrhagic disease through rupture of the vessels is more likely to occur. Whooping cough, by violent inflation of the ear during a paroxysm of coughing, sometimes ruptures the membrana tympani; but the violent inflation itself is sufficient to excite inflammation. Politzer's inflation may sometimes excite a catarrh of the tympanum. Tuberculous patients are strongly inclined to catarrh of the tympanum, in consequence of the extension of some form of bronchial or naso-pharyngeal catarrh, to which they are so subject, to the ear. Tuberculous matter (a cheesy material), in the tympanum, often results in middle ear catarrh.

Sea bathing, as in the case of suppurative trouble, excites this affection in several ways. Breakers striking the ear may rupture the membrane, or even if not ruptured, the cold water enters the meatus, which is enough to excite inflammation. Again, the patient may take the water into the mouth, and in the agitation and excitement, he may attempt imperfectly to swallow it, by which means some of it is forced into the tympanum and excites trouble. Sometimes, in swimming, a wave dashes the water into the nostrils, which, in the strangling efforts to remove it, is often forced into the ears. The nasal douche has inflicted many aural catarrhs upon those who use it, and I have abandoned it altogether. Even snuffing up water into the nostrils from the palm of the hand, has been known to pass into the ears and do harm. In my own practice of sending a few drops of salt and water into the nostrils by means of an atropia-dropper, it has occasionally passed into the ears, with deleterious effects.

The irritation of carious teeth, or even the advent of the wisdom tooth, has been known to excite an otitis. Teething in children has long been asserted to be a cause of otitis, and I do not doubt that it is — less frequently, however, than it is asserted to be. The cold pack in water cures, or the Turkish and Russian baths, have been known to excite this disease. As aural catarrh is more prevalent in the spring and fall, when the air is changeable, we easily infer that catarrhal influences are at work. Exposing the ear to a draft of air in any manner may provoke a catarrhal

attack. Taking cold, even though it be very slight, may, in those so predisposed, go to the ear. Another fact is of great interest, that the patient is much more likely to "take cold" when depressed, from any cause whatever, it apparently requiring a constant exhibition of vital energy to resist the inclement weather of our latitude. Many patients require cotton in the ears during the winter to keep them from becoming inflamed and painful.

ORIGINAL ARTICLES.

WHY SEWER TRAPS ARE UNRELIABLE, AND HOW TO APPLY THE OUNCE OF PREVENTION AGAINST DISEASE GERMS IN SEWER AIR.

BY JOSEPH G. RICHARDSON, M.D.,
PROFESSOR OF HYGIENE AND DEMONSTRATOR OF HISTOLOGY IN THE UNIVERSITY OF PENNSYLVANIA, PHILA.

THE practical bearings of this paper upon the life and health of 50,000,000 of human beings exposed here and in Europe to emanations from sewage are, it seems to me, so vitally important that I propose to commence by giving its salient points so closely condensed that they may be glanced over by the busiest reader. In the following pages, then, I assert—

1st. That, according to the germ theory of disease in the form for which during the past fifteen years I have been an earnest advocate,[1] diphtheria, typhoid fever, scarlet fever, and probably other contagious diseases, are connected with, if not solely due to, the development of spores or germs of vegetable organisms in the human body.

2d. That these germs propagate in sewers and float to us on the sewer air, penetrating into our dwellings through water closets, sinks, stationary wash-stands, etc.

3d. I have just discovered that the reason our various ingenious traps fail to protect us against these fatal sewer diseases is that sometimes a layer of micrococcus and mycelium creeps along the interior of the contrivance until it forms a new depot of development in the slimy vegetable lining extended into the *inner* or *house side* of the trap, from which, without obstruction, its deadly germs may be given off into the very bed-chambers of its victims; therefore,

4th. The true method of obviating this danger is by sterilizing with slow currents or drippings of solutions of sulphate of iron, corrosive sublimate, arsenic, carbolic acid, etc., the whole interior of our waste pipes, just as the shores of the Dead Sea and the banks of certain small streams are sterilized by mineral ingredients, or poisonous metallic substances from manufacturing refuse, with which their waters are mingled.

The first proposition above enunciated needs no defence with believers in "organic entities" as causes of disease, and to the conservative majority of our profession who still doubt the germ theory, I would urge that sanitary precaution in accordance with its doctrines is now an imperative duty, since this hypothesis has been accepted by such a respectable minority of physicians, including a large proportion of those whose special studies of medical microscopy have best qualified them to judge its merits. Only a duty, I admit, however, as yet, *provided* these precautions do not themselves involve danger to health; do not interfere with other safeguards dictated by rival theories of disease; and are not so troublesome as to be practically inapplicable.

I cannot claim in support of my second proposition that I have ever yet propagated any of the disease poisons in a sewer, and yet the innumerable culture experiments of Koch, Klein, Pasteur, H. C. Wood, and a host of their disciples, have so conclusively shown that the conditions of algoid growth are warmth, air, moisture, and nitrogenous matter, that I think there can be no reasonable doubt that propagation of disease germs does frequently occur in sewers, where it is incontestable that these necessary physical conditions are *all* abundantly present. I have determined by direct observations upon the gelatinous films of vegetable growth lining waste-pipes communicating with sewers, the presence of micrococcus, bacteria, and mycelium, morphologically identical with those of diphtheria, and of Klein's pig-typhoid fever; and since the condition of existence for the common forms of these low vegetable organisms and for the disease germs are known to be similar, it becomes, I think, certain that in situations where I found abundant algoid spores and mycelium, the disease germs of diphtheria, typhoid fever, etc., could have propagated themselves had they happened to find a lodgement. Lastly, as direct evidence from the clinical side of the question, we have such suggestive records as the following "stubborn facts:" Dr. Wm. N. Thursfield, of Birmingham, England, reports tracing an isolated case of diphtheria to temporary exposure to "sewer gas" in a house on a short line of sewer which he *knew* to be specifically contaminated by diphtheria. This sewer, when opened and examined by a surveyor, produced in him a severe diphtheritic attack (*London Lancet*, August, 1878, p. 211). Dr. Wm. V. Keating details at length four cases of typhoid fever attributed to sewer gas from untrapped drain pipes, and refers (on page 117) to cases of measles, scarlet fever, and diphtheria in two other families apparently from the same cause (Trans. of College of Physicians of Philadelphia, 1879, p. 85). Dr. C. W. Chamberlin, of Hartford, relates a remarkable case of fatal erysipelas seemingly due to sewer gas from a waste pipe carelessly left open beneath the bed of the patient (Connecticut State Board of Health Report for 1880, p. 5). Dr. Geo. Wilson quotes the account of 20 out of 22 boys at Clapham, England, in 1829, who were attacked with violent vomiting, purging, and fever within three hours after standing over a choked-up drain, watching the workmen clean it out (Wilson's Handbook of Hygiene, 3d American edition, p. 68). Nor are these isolated instances, for the medical journals of America and Europe record numerous

[1] See Experiments showing the occurrence of Vegetable Organisms in Human Blood.—Amer. Journ. of Med. Sciences, July, 1868, p. 291. Handbook of Medical Microscopy, Philadelphia, 1871, pp. 196, 252. The Germ Theory of Disease and its present bearing on Public and Personal Hygiene.—Penn Monthly, Nov. 1878, p. 858.

similar examples of dangerous or fatal effects from disease poisons in sewer air when inhaled by human beings.

The most important fact mentioned in my third statement was discovered in a purely accidental manner, as follows:

On moving into a new residence I had all the stationary washstands fitted with ball-traps of the most approved construction. Noticing, however, after a few months, that the flow of waste water through one of them seemed to be impeded, I unscrewed the glass cup which forms the lower segment of the trap for the purpose of removing the obstruction, and was surprised to find what appeared to be a fragment of thick black blotting paper hanging from the vertical pipe. On further investigation I discovered that this was part of a continuous lining to the upright tube of the trap, which lining extended a little above the ordinary water level on the inner or house side, and in order to determine its nature I detached a portion for microscopical examination. At first I did not appreciate the tremendous importance of my observation, but on finding, under a power of 1250 diameters, that the film was a felted mass of mycelium, bacteria, and micrococcus, I realized at once that the existence of such a lining of vegetable growth completely through the trap from its outer to its inner limit accounted for the penetration of disease germs through the best of these contrivances, and explained that frequent and deadly entrance of sewer infection through apparently tight traps which has been the despair of plumbers, sanitary engineers, and hygienists. Manifestly if the bacteria of putrefactive decomposition which make up this filthy coating, called *seilhaut* by the Germans, and probably in their growth give off the disgusting odor popularly known as "sewer gas," could thus intrude to the house side of the trap across the microscopic inequalities of the surface to which the ball "fitted air-tight," the micrococcus of diphtheria could likewise penetrate by the same occult but infallible pathway, and only chance had saved me and my family from similar access of typhoid fever or other pestilential germs. And it is further obvious that the various theories to account for sewer infection in spite of air-tight traps, such as the siphoning out of traps, their partial corrosion and leakage, the absorption of sewer gas by the fluid sealing them, and its evolution from the inner or house surface, etc., may be relinquished.

Fourth, as a remedy for offensive sewer emanations, solution of sulphate of iron (common copperas) has long been known, and I am strongly inclined to hope that in it, when *properly and systematically applied*, we have an agent capable of making the surface of waste pipes unfit for vegetable growth or life, and so rendering these conduits completely sterile, just as certain weeds may be killed and conquered by watering the ground where they grow with a strong saline solution. American inventive genius will probably supply a variety of contrivances for applying suitable parasiticides for this purpose as soon as any demand for them shall arise, but in the mean time I would suggest the use of the following simple apparatus which has proved quite successful in my own residence. Fit a half-gallon bottle with a tight, perforated cork carrying a glass tube about three-sixteenths of an inch in diameter; fill the bottle with solution of copperas of the strength of one ounce to the pint of water, adapt the cork and invert the bottle over the basin (for example) of a stationary washstand, so that the fluid may slowly drip down the waste pipe. The apparatus may be conveniently supported on a board laid across the basin, and having near its centre a two-inch hole into which the neck of the inverted bottle is inserted. A pint or so of the same solution should first be poured down the holes of the overflow pipe, and the best time to use the contrivance is on going to bed, so as to leave the trap full over night of the mineral solution. Application in this way twice a week has so far seemed to answer the purpose in my house, but a still more effectual method would be to have a stop-cock placed in the waste pipe a foot or two below the trap, and every night or two closing this, fill the former and the adjacent portions of pipe with copperas solution.

I believe we will only effectually combat these multitudinous disease germs, when we fully realize that they are each struggling to live and reproduce their kind, just as are the higher plants and animals throughout the whole course of Nature.

The fact that thistles and other noxious weeds so soon appear in neglected fields or gardens, shows beyond dispute how widely, and yet how imperceptibly, their seeds are disseminated, and how eager these seeds are to seize every chance for reproducing themselves after their kind, whenever and wherever suitable warmth, air, moisture, and nourishment happen to be afforded them. Even a little handful of earth in a rocky crevice is often forced to support some wandering nettle or poison-ivy, and its progeny of organisms hurtful to man, perhaps through a long series of generations.

In like manner, apparently, every diphtheritic spore and typhoid fever germ strives with all its puny might to live and grow and multiply itself, in the blind hope, as it were, that one of its iniquitous progeny will succeed in fastening upon some human being, whose affirmative power of constitution (as Emerson so aptly called the Life Force) is feebler than its own, and so accomplish its malevolent destiny. And whilst millions of such germs die for want of moisture, warmth, air and nitrogenous matter, and hundreds of millions flourish uselessly, because they cannot gain access to mankind, a few (relatively) out of these vast numbers steal past air-tight traps in the manner I have pointed out, and, establishing themselves on the inner side of such "safeguards," may be reproduced luxuriantly, and, under favorable circumstances, succeed in sending some of their descendants to inflict upon us the well-known disturbances of health which characterize the different contagious diseases.

Varied and prolonged courses of experimental inquiry will doubtless be requisite for deciding numerous minor details, and especially just how often waste-water pipes must be bathed with solutions of mineral substances, in order to secure the desiderata

above indicated. But I am confident that the key to this momentous problem, of how to avoid infection from "sewer gas," or, more correctly, sewer air, entering our dwellings, is to be found in the principle of *so sterilizing* the whole interior of all pipes communicating with sewers, and, if possible, of the sewers themselves (by frequently irrigating them with fluids containing metallic compounds *poisonous* to plant life), that no vegetable organisms can propagate within them. Under such circumstances, *disease germs*, even if they penetrate for short distances through imperfect traps, will be powerless for evil, because a noxious element being introduced into their environment, the harmoniously favorable conditions necessary for their development and reproduction are disturbed.

HYPODERMIC INJECTION OF COLD WATER FOR THE RELIEF OF PAIN.

BY S. J. RADCLIFFE, M.D.,
OF WASHINGTON, D. C.

CASE.—I was called about 6 P.M., October 22, 1881, to see Mrs. B., aged 35 years, short in stature, stout, round in figure, mother of four children, youngest 4 years of age, nervo-sanguineous temperament, looking in perfect health.

She said she had rarely been sick; had indeed always enjoyed good health. Her husband informed me she had had, some years previously, attacks of hysteria, and it always seemed to be associated with symptoms of malaria. I treated her in May, 1881, for a sharp attack of acute bronchitis with bloody expectoration, lasting some two or three weeks, from which she recovered well.

She said she was suffering from exceedingly severe neuralgic pains about the waist, stomach, and under the right breast, following a chill which occurred about noon that day. She said she thought she had been suffering from malaria for some time, for which she had been taking quinia almost daily, but in spite of the quinia the malaria had culminated in the chill and fever, leaving her with the terrible pain for which she now sought advice.

She was in bed covered up in blankets and bedclothes. Her pulse was regular, a little accelerated, respiration hurried, temperature normal, some moisture of surface. She said her bowels were regular, her uterine function normal, her appetite fair, and she usually slept well. There was no evidence of debility or anæmia. Digestion and assimilation were perfect; she was well nourished. The only history of malaria was that given above.

Physical examination revealed no enlargement of spleen, no trouble of heart or lungs; there was no tenderness on pressure over the side or abdominal region. There was neither headache nor other cerebral symptom. The pain in the side and breast was the only symptom of which she complained, and she described it as of the severest character, impeding respiration and causing her to gasp for breath, and surpassing any pain she had ever had.

I injected ⅓ grain morphia sulphate hypodermically in her right arm, on the side of the pain, and directed her to continue the quinia and also to take 20 grains potassium bromide three times daily, beginning the next morning.

On the 23d she was better. The morphia relieved her, she had slept comfortably all night, and felt no symptoms of chill and had no pain.

She had no paroxysm and was free from pain on the 24th, and also on the 25th, and she was ordered to continue the quinia and bromide as directed.

On the 26th, three days after the last seizure, on the fourth day, she had another paroxysm, equally severe, she said, as the first, preceded by the chill, accompanied by the same symptoms, and ending in the same lancinating pains—the pain occurring about the same hour of the day.

Her condition when I saw her was just the same as at my first visit. The fever had subsided, the pulse and temperature were but a little above normal, the respiration was a little hurried, the surface was somewhat moist. There was no indication of any great abnormal condition or constitutional disturbance, except the pain, which was the principal feature in the case.

I injected again, hypodermically, ⅓ grain of morphia sulphate in the right arm, and directed her to continue the quinia, 10 grains each morning, and the bromide three times daily, as previously ordered. She had no paroxysm on the 27th, nor on the 28th, but had one on the 29th and one on the 31st, under the same circumstances and conditions —having the chill at noon, then the fever and the sweating, she said, and then the same excruciating pain—the apyrexias being three days, except the last, which was but two. I injected as before in the arm, ⅓ grain of morphia at each visit, continuing the same directions as previously given, except to take an additional dose of 10 grains of quinia at bed-time, making 20 grains daily.

She had another paroxysm November 1st, and another on the 2d, and one on the 3d, about the same time of day each day, the last phase of it, the pain, about 6 P.M., as before, at which time I was usually sent for, and I found her always at each visit under like conditions, and begging for relief from the awful pains, which she said were increasing in severity rather than diminishing.

I gave her at each visit ⅓ grain of sulphate of morphia hypodermically, with the same relief from pain, and the same gratification to her as before—directing the same treatment to be continued as already given. She had no paroxysm, and was free from pain or other disturbance until the 7th, when she had an attack equally as severe as any previous one. She seemed, indeed, to be more hopeless and despondent than ever.

I determined now to abandon all former treatment, especially the morphia, for which I found there was a growing desire, which might lead to the opium habit, and resort to what I might almost call a *placebo*, in the form of hypodermic injections of cold water. I consequently injected 15 drops of cold water in her right arm as I had done before with the morphia. I was surprised to find it relieved the pain quite as well and as promptly as the morphia. All other treatment was now discontinued.

She was well and free from pain on the 8th, 9th,

and 10th, but had another paroxysm on the 11th, milder in type, four days having elapsed since the last, and her condition was very materially improved. I injected again, 15 drops of cold water in the right arm, as I had previously done, which again entirely relieved her of pain, and she remained well and comfortable until the 15th, again four days (the fifth day) since the last paroxysm. Under the cold-water treatment the paroxysm had been delayed until the fifth day—changed from paroxysms occurring daily, and they were neither so intense nor continuous, and the intervals were spent with more satisfaction and freedom from anxiety.

Anxious now to try the comparative value of minute doses of morphia with the cold water, I injected 5 drops of Magendie's solution, observing the same rules as with a larger dose and with the water. I found its action was hardly adequate to relieve the pain, and its effects were only manifest after a considerably more protracted period. In consequence, the next apyrexia was only twenty-four hours. She had another paroxysm on the 16th, and went through the same ordeal as before, the pain, she said, being quite as severe as any previously endured.

I injected now fifteen drops of cold water hypodermically in her right arm as before. The relief of pain was as prompt and complete as in the previous instances, and it was as wonderful as singular to see with what success it acted. Her complaints seemed to quiet or cease in a very short period, and her pains fled with her complaints.

I saw her at short intervals until the 5th of December, twenty days after the last paroxysm, and the same time after the last injection of cold water. She had received no treatment in the mean time, had remained well during that period, and her general appearance was especially good in every particular. Her sickness had left no deteriorating marks, she had not materially lost in flesh, and she stated she could attend to her household duties and take long walks without fatigue, and was not cognizant of any more debility, but felt quite as fresh as before her first attack, and, realizing her improved condition, she said she was preparing to take a long journey to the far West, where she hoped to escape all malarial influences.

Remarks.—It will probably be admitted by all that physicians are called to treat cases where the diagnosis is not always easily made, and the line of treatment is not always apparent. In other words, they find many patients whose disorders are simulated, not always with the view to deception, indeed, but in many cases because of a want of a proper knowledge or appreciation of their condition, and who assume causes and effects with regard to themselves, which are not only not rational, but often lead to error, especially where reliance is placed on the objective symptoms alone, which, however, are in no wise unworthy of notice, and in many cases give all the information we can obtain.

It is in these cases of simulated or pretended diseases that the practitioner is often thrown off his guard, particularly when the patients are persistent in their explanation and view of the case, and strenuously insist that they really suffer from the diseases for which they seek advice; and it is only by an independent and firm course that the proper remedies can be applied to counteract the mental, as associated with the physical, malady or condition of the patient.

The majority of these cases are of the better class of society, live well or even luxuriously, seem to enjoy perfect health, appear to have no cause or reason to deceive or desire to complain of disease with which they do not suffer, whose word would be a guaranty of the truthfulness of their assertions, and who seem to be honest in all they say, and desire to be benefited by advice and treatment.

To place such diseases in the category of hysterical disorders would be a rational sequence, for hysteria is eminently a disorder where simulation is most readily practised.

Charcot, in speaking of hysterical ischuria, says: "This leads me to say a word on *simulation.* You will meet with it at every step in the history of hysteria, and one finds himself sometimes admiring the amazing craft, sagacity, and perseverance which women under the influence of this great neurosis will put in play for the purpose of deception—especially when a physician is to be the victim." Dr. Watson says: "The deceptive appearances displayed in the bodily functions and feelings find their counterpart in the mental. The patients are deceitful, perverse, and obstinate, practising or attempting to practise the most aimless and unnatural impositions." And Hanfield Jones, commenting on this, says: "I believe that the majority of the profession agree with these statements, and that the term 'hysteria' is commonly used to designate a patient whose complaints are considered to be more or less exaggerated, and who is not *bona fide* anxious to get well and cease from being the object of nursing and sympathy;" and further, "call them, if you please, weak-nerved, enfeebled, hyperæsthetic, or neurolytic, or anything which implies that solely their physical mechanism is failing or out of gear, but cast no suspicion on their immaterial part, perhaps braver and stronger than your own, which may never have been tried as theirs has." . . "If, however, no proof of imposition can be discovered, and if the history of the patient shows that she has had much wear and tear of the nervous system, we should be slow to set her down as an hysteric, because she has the classical symptoms more or less markedly." "But when the medical attendant once finds that disorder is simulated, or greatly exaggerated for selfish purposes, he had better conclude that moral treatment is needed, and not medical."

At the same time, to make a common classification of all such troubles under the category or cognomen of hysteria, would not only be wrong in principle, but unwise in judgment. Indeed, this is too often the case, and many times patients are dismissed, after but a casual or imperfect examination, with the remark that there is but little the matter with them, plainly implying that their ailments are purely imaginary, and unworthy of especial attention. That this is wrong, no one will

deny, for it leaves a bad impression upon the mind of the patient, and augurs badly for the healing art, and shows the imperfections of rational therapy; and we should guard against any such presumption, and always give the patient, often times a suppliant for relief, the benefit of the doubt. Errors of judgment or diagnosis, if honest, are excusable—as the eminent surgeon who plunged a trocar in an imaginary ovarian cyst, and found the marks of it on the child after birth—but to pass over the complaints of patients as trifling and unworthy of proper investigation because they are not decidedly manifest or are inappreciable to ordinary observation, makes the practice unfruitful of results, and renders our opinions questionable, and likely to be taken always with a degree of distrust.

With reference to the case reported, there are several points of interest, and the question may arise, whether it was a genuine case of intermittent malarial fever, with its congener malarial neuralgia, a case of simple neurosis, culminating in circumscribed neuralgia, or neuralgia of malarial origin, or a simulated disease, urged on by a desire either for the hallucinating or stupefying effects of morphia.

The prodromal stage she referred to the feeling of malaria, and she described it as a sensation of nervousness and apprehension, sometimes giving her a depressed feeling and a disposition to cry. The paroxysms would come on, she said, about the same time of the day, eleven or twelve o'clock. It was preceded by a certain restlessness, then a shivering or cold feeling, for which she had to go to bed and cover up in blankets, usually taking a dose of whiskey. After some time, varying from one to two hours, fever would succeed, a warmth and glow, and afterwards, towards five o'clock, she would perspire, and then the pain came, for which she especially sought relief. These, she said, were in regular order, the chill always first, and the pain always last. The apyrexias, as will be seen, were at first three days, and then two, then twenty-four hours, and then four days. During the intervals of the paroxysms, she expressed herself as feeling well, with the exception of a little malaise, to overcome which she would usually entertain herself by some home amusement, or go out for a walk.

The pain she described as unendurable, excruciating, unbearable, etc., but expressed herself in regard to it in the most placid, quiet manner, leaving the impression that she bore the severest suffering with the most perfect self-control imaginable. There was no writhing or contorted features, no outcry or other indications of pain, and yet she said she suffered all that could possibly be endured. At this time, the heart sounds were good; respiration regular, but increased; the pulse but slightly accelerated; the temperature normal, or nearly so; the surface a little moist, and the countenance bore an expression of pain or uneasiness. There was only a seeming abandonment to her condition, and a desire for something that would make her oblivious for the time, and which she expected to find in morphia.

Neuralgia is invariably a disease of debility, and we could only expect to find it after a long continuance of the malarial poison, protracting the disease to an unlimited period. In this case there was no exhaustion, no debility or anæmia, no impoverishment of the blood, no want of nourishment. The paroxysms occurred suddenly, after no considerable sickness, at irregular periods, and constituting a fourth stage to a pseudo-intermittent, without a distinct history of malarial poison; and a simple neurosis would probably have resulted only after a long season of depression, anxiety, or other nervous influences acting potentially on a system already weakened by disease, and unable to bear or resist impressions tending to produce this result. There is no doubt there was here a mixed condition, and the main or most prominent symptom was hysterical, although the rhythm of the paroxysms and the clearly expressed pain gave other evidence that there was some other ground for the attacks than mere hysteria, and tended to show it to be either a neurasthenic or neuropathic disease. A prominent consideration in the case is that there was manifest pain, and that hypodermic injections of cold water seemed to relieve and cure it; and if it can be so proven, will it not have a tendency to simplify our therapeutics in the future?

The experiences of Dr. Ponte, related in the *Gaceta Medica di Venezuela* (see *Medical News and Abstract*, Dec. 1881), in which he employed water hypodermically for the relief of pain, seems to come under the same relations as the case reported above, and though he eliminated the imaginative element from the remedy, he does not say whether or not there was any imaginative element or simulation in the cases themselves, and no explanation was given as to the action of the remedy. His cases include intercostal neuralgia, odontalgia, gastro-intestinal neuralgia, with some hundred other cases, treated in the manner described, with good results.

Reference is also made to an article in the *Lyon Médicale* (see *Med. Press*, December, 1881, and *N. Y. Med. Abstract*, Jan. 1882), where Dr. Raymond Tripier employs hypodermic injections of aqua fortis to prevent vomiting of food in phthisical patients. He injects a syringeful of very cold water —either before or immediately after the meal— which often causes the cessation of vomiting which had persisted in spite of other remedies. It appeared similarly to stop vomiting in some dyspeptics, and especially in so-called nervous women who dread morphia, but this latter class should be kept ignorant of the nature of the remedy.

The case reported may have been a simulated disease and there may have been a great desire or longing for the peculiar effects of morphia, at the same time it was not relieved any more by the morphia than by the cold water, and to the cold water may be given the credit of final conquest, in making it unnecessary for the continuance of either remedy, and I present it only to exhibit its novelty and to elicit observations and experiments in the same direction.

1211 F. ST., N. W.

SULPHATE OF ZINC IN CHOREA.

BY E. J. KEMPF, M.D.,
OF FERDINAND, IND.

KATIE SCHMITT, aged fourteen years, was brought to me by her parents for treatment in the spring of 1881. She complained of pains and tiredness in the limbs, accompanied by great restlessness and curious, wriggling, fidgety movements. Her gait is very unsteady, and at times she falls flat to the ground. In walking, the patient seems to drag one leg. She can not keep her hands for a moment in the same place, but convulsively jerks them about. Standing is impossible. The features are almost continually being twisted into the oddest grimaces, and are of a silly, vacant expression.

The parents inform me that this state came on gradually, getting worse by degrees. She could at present hardly feed herself, and when eating would gulp down the food and drink. Dishes or glasses she would at times, when carrying them, involuntarily drop or pitch away. The speech is thick and somewhat affected. The tongue is unsteady, but can be put out with an effort. Saliva would at times dribble from her mouth. Sleep was tolerably sound, the movements ceasing during sleep, though several times she has been found on the floor in the morning. Bowels are constipated. Urine normal, neutral, and offensive. She has no fever and no headache. Scolding her, or fits of crying or fretting, or trying to keep quiet, make matters much worse. The little patient, although very bashful, is lively enough at home; yet she becomes easily fatigued and tired.

I prescribed:

℞. Sulphate of zinc, ... ʒj.
Fl. ex. valerian, ... fl ʒj.
Water, ... fl ʒviij.—M.
Sig.—A teaspoonful thrice daily.

Also—

℞. Aloes suc., powdered, . . . grs. xxx.
Ext. nux vomica, . . . " viij.
Ex. taraxacum, . . . q. s.
Mix, and make thirty pills. Sig.—One or two at bedtime.

The dose of the first prescription was to be gradually increased, so that after the twelfth day she took ten grains of sulphate of zinc at a dose, or thirty grains a day. The fluid extract of valerian was proportionally increased. The purgative pills were given so as to keep the bowels very loose. No regulations in diet were made, the patient being permitted to eat whatever she pleased. An occasional bath was given the patient, and she was instructed to take out-door exercise freely.

On the twenty-seventh day after she came under my treatment, the irregular movements of the arms and legs had nearly ceased. The patient was otherwise almost well. The medicines were continued for some time after she had entirely recovered.

About nine months afterwards, the patient had a slight relapse, but was quickly relieved by a repetition of the medicines.

Three other cases under my care—Jennie C., Mary H., and James L.—have been cured by the same treatment.

Sulphate of zinc, accompanied by active purgation, is a well-established mode of treating chorea, and it is undoubtedly, to my mind, the best treatment that we know of at present.

HOSPITAL NOTES.

VIENNA GENERAL HOSPITAL.

(Service of PROF. SPAETH.)

A CASE OF DIFFICULT LABOR.

(Specially reported for THE MEDICAL NEWS.)

ONE of the most difficult labors, occurring since the first day of the current year, and numbering the 1677th in the "Protokoll" of the second obstetric clinic, has recently terminated.

The woman, M. J., twenty-two years of age, Catholic, unmarried, by occupation a servant, born in Kasejouric, Böhmen, in her second pregnancy, was of medium stature, and presented no abnormalities in the osseous system; constitution and general condition were apparently good. Her previous labor had been easy and had terminated spontaneously. She was uncertain as to the time of last menstruation. The course of the second pregnancy was perfectly normal, until some hours before her admission into the wards of Prof. Spaeth, when premature rupture of the bag of waters had permitted all the amniotic fluid to escape. She entered the lying-in-room 4 o'clock P.M., July 18th, giving the history of premature rupture of the membrane, with entire escape of the amniotic fluid some hours earlier, and that the pains had been felt for the first time, 6 o'clock P.M., July 16th.

Examination, immediately upon her admission, of her breasts and external genitals, revealed nothing of an abnormal character. The abdominal tumor was small in size, the walls tightly contracted around the uterus, while that organ itself was in such a state of constant contraction that the fœtal parts could not be palpated through the abdominal walls. The fœtal heart could not be heard. External measurements gave no evidence of pelvic deformity.

Vaginal examination revealed that the cervix had disappeared, the orificium externum dilated for two fingers, a "conjugata vera" diameter of 10 cm., but the diagnosis of presentation and position of fœtus could only be ascertained after prolonged narcosis. After this procedure it was found that the left shoulder was jammed into the pelvis, lying in front, while the abdomen of the child looked to the abdomen of the mother, the head to the left, and the lower extremities to the right. This presentation and position of the fœtus, according to the Vienna School of Obstetrics, is termed 1st, transverse presentation; 2d, position.

The labor pains, at this time, were weak.

No active treatment was considered advisable, until the mouth of the uterus was completely dilated, which event took place about ten o'clock, 20th of July. During the 19th of July, the woman had a more or less constant elevation of temperature, which reached at one time 41° C. At eleven o'clock A.M., July 20th, Prof. Spaeth and Dr. Ebrendorfer, First Assistant, had a consultation. Prof. Spaeth expressed himself in favor of turning, either by Braxton Hicks' method, if possible, or by the foot. Dr. Ebrendorfer advised decapitation. This advice was rejected, because the head was elevated to such a degree that the introduction of the decapitator would involve inevitable danger of laceration of the maternal tissues. Braxton Hick's method of turning proved also impracticable.

The woman was then chloroformed, placed upon her right side, and Dr. Ebrendorfer, standing to the left side of the woman, introduced the left hand into the uterus, and with an infinite amount of care and difficulty succeeded in grasping the left foot of the fœtus, when, after still greater difficulty in securing rotation of the fœtus, the feet were drawn through the vulva and extraction at once performed. The child was dead, with commencing maceration. The sex was male; weight 3000 grammes; length, 49 centimetres.

The placenta was delivered ten minutes later by Credé's method. The uterine cavity and vagina were thoroughly irrigated with a two per cent. solution of carbolic acid, and iodoform pencils were introduced within the uterus and vagina. Secale cornutum and quinia were exhibited by the mouth in large doses.

The progress of the patient since delivery has been very satisfactory, and recovery is certain.

MEDICAL PROGRESS.

Osteogenesis.—The methods adopted for bringing about a regeneration of bones and joints necessitating resection on account of injury or disease, constitute an advance in surgery of such interest and practical importance as to distinctly merit special consideration. To adopt a measure by which the main support of a limb, when diseased, and not only rendering that limb useless, but also perhaps imperilling life by pain and exhaustive suppuration, can be removed, with not a mere probability, but, in many instances, almost a certain confidence that it will be restored to the patient, is a triumph than which it is hard to conceive one of greater importance among the developments of modern surgery. The subject is of keen interest, and was ably reviewed by Prof. Stokes, in his Address on Surgery, at the meeting of the British Medical Association. Since the time when, in 1865, he witnessed in Lyons many of M. Ollier's experiments, and subsequently repeated them, he has been strongly impressed by what he then learned, and he has since in practice, as suitable cases presented themselves, adopted periosteal preservation in various operations on bones and joints, a procedure with which the names of the eminent surgical trio, Syme, Langenbeck, and Ollier, must for ever be associated. The operative measures on which his experience is based, are resections of the elbow, shoulder, and ankle-joints; resection of the diaphysis of the fibula in its entirety; resection of the greater portion of the ulna; of metatarsal and metacarpal bones; and, lastly, of transplantation of periosteum, as a part of the so-called Indian rhinoplastic operation. Still, though the good results obtained by this practice are, in properly selected cases, not open to question, there can be no doubt as to the existing unsettled condition of surgical opinion in reference to the value of the procedure. This, he believes, arises from a two-fold cause, one being traumatic, from insufficient care being taken during the detachment of the membrane; and the second, the non-differentiation on the part of surgeons of the cases likely to be benefited, and those in which the adoption of the practice is, as a rule, attended with disappointing results. As to its value, when the membrane is comparatively healthy, and the patient young, there can be no question. The activity of bone production and other signally gratifying results of the practice must be acknowledged when performed under these circumstances. These results, however, are not so striking when the patient is an adult. In some cases, no bone production whatever is observed, and in others the osteogenetic process is slow, the product weak, and liable to become absorbed. It should also be borne in mind that, in early life, the membrane has a dual function; one, that of increasing the thickness of bone, and the other the repair of waste. In adult life, it is mainly confined to the latter. This rule, however, is not without exception. He recalled one instance of a man, aged 42, on whom he performed a resection of the upper end of the humerus on account of carious disease. The result was eminently satisfactory; not only was there a reformation of the bone removed, as evidenced by comparative measurement, but also a pseudo-arthrosis so perfect as to enable him now, as he had recently learned, to use his spade, to plough, and perform with efficiency all the ordinary duties of an agricultural laborer.—*Brit. Med. Journ.*, August 12, 1882.

Treatment of Vomiting in Pregnancy.—Prof. C. Braun (*All. Wiener Med. Zeit.*) reports a case to which he was summoned, the patient being regarded as moribund. She was in the first half of her pregnancy and extremely reduced in consequence of intractable vomiting. The physician in charge had decided on producing premature delivery as a last resource. Braun, who has often opposed this practice, decided instead to bathe the vaginal portion of the cervix with a ten per cent. solution of nitrate of silver. This was done, and the surface quickly dried to prevent further cauterization. The success of the treatment was so immediate and so great, that an hour afterward the patient enjoyed a meal of roast veal, and there has been no vomiting since. Prof. Braun thinks that hyperemesis should be expunged from the list of indications for artificial abortion. He has never seen a case of death from hyperemesis. In France, where abortion is frequently induced to relieve this symptom, it is found that the vomiting is thereby stayed in only forty per cent. of the cases, while in ten per cent. the operation has been fatal.—*American Practitioner*, September, 1882.

An Undescribed Fungous Disease of the Skin.—Von Hebra (*Wiener Med. Blätter*, Nos. 39 and 40, 1881) describes a form of dermatomysis which has hitherto escaped observation. It is distinguished by its localization, being found always symmetrically situated on the neck, bend of the elbows, and in the popliteal spaces. The fungus is small, seldom rod-shaped, and no organs of fructification have been observed. The affection is distinguished from herpes tonsurans by its not occurring in rings, by the hairs remaining unaffected, by its chronicity, and by the amount of artificial eczema which it provokes. It is most likely to be confounded with eczema. It was chiefly observed in young anæmic girls with a transparent skin. The treatment consists in first mitigating the eczematous inflammation by diachylon ointment, and then applying anti-parasitic remedies.—*London Medical Record*, August 15, 1882.

Surgical Treatment of Granular Ophthalmia.—The treatment of granular lids is partly medical, partly surgical. M. Brachet, in a paper devoted to the surgical treatment of this disease, records the practice pursued by M. Galezowski (*Recueil d' Ophthalmologie*), in Paris, which appears to have been successful. It consists in the excision, in each eye separately and after the lapse of about a week, of a large fold of conjunctiva from the upper and lower sinus or cul-de-sac. Considerable swelling follows the operation; but as soon as this has subsided—that is, after the lapse of about four days—he applies a crayon of mitigated nitrate of silver to the inner surface of the lids. As a result of this treatment pain diminishes, the cornea becomes clear, and the vision is greatly improved.—*American Practitioner*, September, 1882.

Methods of Amputation.—Prof. Stokes in the Address on Surgery, at the meeting of the British Medical Association, reviewed the different methods employed by different surgeons. According to Von Langenbeck, Trélat, and others, the preservation of the periosteum is attended with advantage. The formation of a periosteal curtain to cover the cut surface of the bone and its medullary canal is believed to act as a shield or barrier against septic agencies, and diminish the chance of the occurrence of some of the secondary calamities, notably osteomyelitis, following amputations. The method he has in some instances adopted, and with success, is, making a somewhat quadrilateral-shaped flap at the membrane and letting it fall over the cut surface of the bone. Another method, that of M. Trélat, is to detach the membrane all round the bone for fully an inch below the point where the bone had to be divided, making, in fact, a sleeve-shaped flap. This plan must, however, materially protract the operation.

This led him to consider some other comparatively recent improvements in the operation of amputation, and to bear his testimony to the great advantages to be derived from the adoption of the principle of long anterior flaps, the chief credit for establishing which belongs to the late Mr. Teale, of Leeds.

Gritti's operation undoubtedly owes its parentage to that of Carden; but, although the retaining of the patella and consequent preservation of the normal attachments of the extensors of the leg is a plan as good as it was original with Gritti, still the details of this method prevented the realization of those advantages which in principle it embodied. Hence the modification which Mr. Stokes terms "supracondyloid amputation"—an operation which, retaining the advantages of Gritti's method, eliminates its defects by lengthening the anterior flap, forming a posterior flap one-third the length of the anterior one, suturing the patella and femur together; and, lastly, and most important of all, by making a high femoral section, but one not involving the medullary canal.

The special advantages that may be claimed for supracondyloid amputation are:

1. That the posterior surface of the anterior flap being covered with a natural synovial membrane, the chances of suppuration and purulent absorption are diminished.

2. Any possibility of the split patella shifting from its place on the cut surface of the femur is prevented by the high femoral section, and by suturing the two bones together.

3. The vessels are divided at right angles to their continuity, and not obliquely, as in other flap operations.

4. The existence of a posterior flap diminishes the chances of any wide gaping of the wound; while the anterior flap, being oval, increases the chances of the stump tapering gradually towards its extremity and assuming the form of a rounded cone.

5. The preservation of the normal attachments of the extensors of the leg.

These advantages embody those of both flap and circular amputation of the thigh, and, at the same time, eliminate their defects.—*Brit. Med. Journ.*, August 12, 1882.

Acute Miliary Tuberculosis of the Pharynx Cured by Iodoform.—M. Gouguenheim reported the following case at the meeting of the Société Médicale des Hôpitaux, on July 28th. He was called to attend a pregnant woman suffering from pain in the throat, and found a condition of ulceration of the anterior half arches and enormous hypertrophy of the uvula, which reached to the laryngeal orifice. The tuberculous nature of the ulceration was established by microscopic examination of the amputated uvula; there was no sign of pulmonary tuberculosis. The lesion was extremely painful and the prognosis seemed to Isambert to be very grave. M. Gouguenheim prescribed ethereal solution of iodoform locally, under which the disease rapidly disappeared. A reappearance of the disease was treated in the same manner with an equally successful result.—*Gaz. Hebdom. de Méd. et de Chir.*, Aug. 4, 1882.

Naphthaline.—Dr. Fischer (*St. Petersb. Med. Woch.*, No. 16, 1882) has made investigations into the uses of this article in all directions. It has been in use as an antiseptic in the surgical clinic at Strasburg; and the results arrived at by Fischer are that naphthaline is a very serviceable antiseptic against both bacteria and mycetes. He even believes it to have a certain influence on inorganic ferments. Some kinds of decomposition are checked in a higher degree by naphthaline than by iodoform. Prof. Kohts observed that in the children's wards for diphtheria and scarlet fever not a single case of infection by contact occurred during the six weeks that they were strewed with naphthaline; this showing that it is also operative as a gas. It is further an active poison to all insects, *e. g.*, fleas, lice, acari, flies, midges, moths, and spiders. Against scabies it is used with equal parts of vaseline; birds and mammals bear it very well, although, when large doses were given to dogs internally, dysentery set in. Sometimes the urine is darkened by naphthaline, though never so much as by carbolic acid. It passes unchanged through the urine, but poisoning by it has never been observed, neither does it produce local irritation, although powdered directly upon wounds and ulcers. Its chief advantage is that it is fifty times cheaper than iodoform. One soon becomes used to the smell. In Nos. 8 and 9 of the *Berl. klin. Woch.*, 1882, Fischer further gives the manufacturers' names from whom the best forms of this useful substance can be obtained, which are here enumerated, as they may prove useful. 1. For direct application to large wounds, for packing cloacæ, abscesses, etc., the best form is the naphthalinum albissimum resublimatum of Trommsdorff, chemical factory at Erfurt, price about 1.20 marks per kilogramme; 2. For lighter injuries, and for impregnating the dressings: *a.* The crystallized naphthaline of Trommsdorff, price 60 marks for 100 kilogrammes; *b.* Naphthalinum resublimatum of Ohlgardt and Co., chemical works at Kehl, Baden, about 50 marks for 100 kilogrammes. Besides these, very good preparations are made by Merk in Darmstadt (Hesse), Kuhlbaum in Berlin, etc.—*London Medical Record*, August 15, 1882.

Supra-pubic Lithotomy.—M. Le Dentu reports a successful case of supra-pubic lithotomy in a man aged 71 years, and gives the following *résumé* of his views concerning the operation:

1. Previous distention of the rectum and bladder facilitates the finding of the latter; in subjects affected with inertia of the bladder, the distention should not be pushed too far.

2. The employment of the thermo-cautery will usually prevent infiltration of urine, and favors adhesion between the soft parts and the vesical wall.

3. It is important not to disturb the fatty tissue generally found in the retro-pubic space, and not to incise the bladder behind the pubis, as recommended by Velpeau. Slight tension on the skin, from below upwards, facilitates the separation of the peritoneum and permits of safely enlarging the wound.

4. The use of M. Anger's vertebrated conductor, pressed against the anterior wall of the bladder, gives a good point of support for the thermo-cautery or bistoury.

5. Suture of the soft parts, not including the bladder, should be absolutely avoided, with the exception of one or two superficial stitches to diminish the size of the wound in the skin.

The suture of the bladder, together with the abdominal walls, is dangerous; since, if the stitches pull out of the bladder, infiltration of urine under the superficial layers will be sure to occur. It is especially dangerous in the aged, since it necessitates the use of the retained catheter, or repeated catheterization, both of which proceedings are attended with great danger.

It offers the same disadvantages in adults and children, and perhaps does not even have the advantage of facilitating cure.

It is, however, advisable to insert a stitch at the inferior angle of the vesical wound, and one or two stitches laterally at each side of this angle, so as to unite the musculo-fibrous layers of the bladder, and prevent the passage of urine into the retro-pubic space.

6. The means proposed for conducting the urine through the urethra are useless and dangerous. The insertion through the abdominal wound of a double siphon formed of rubber tube, pierced with holes in the sides, ensures the removal of the entire quantity of urine formed.

7. The retained catheter should only be employed when the patient is out of danger; unless there is some special indication for its use, it should not be used in the first few days after the operation.

In some cases it is to be preferred to repeated catheterization, while in others the reverse holds. In all cases its use must be frequently suspended, since patients usually have great difficulty in learning to tolerate it.

By means of these precautions it is thought that the danger of the formation of a urinary fistula is reduced to a minimum.—*Gaz. Méd. de Paris*, July 1, 1882.

The Selection of Anæsthetics.—In the Address on Surgery at the meeting of the British Medical Association, Prof. Wm. Stokes said that whatever anæsthetic the surgeon selects—whether it be chloroform, ether, or both combined, bichloride of methyline, or nitrous oxide gas—we must admit that, even with the most careful precautions as regards the condition of the patient generally, the anæsthetic selected, the amount of it used, and the mode of its administration, the gauntlet of peril has still to be run. In truth, it is hardly to be expected that an agent which can so rapidly and completely paralyze our senses should not be attended with peril. Of the two anæsthetics, however, that surgeons as a rule mainly rely on—ether and chloroform—much has of late been done to diminish risk by limitation of the amount of the anæsthetic used; by the gradual introduction of it into the system; by the avoidance of ether in infancy and extreme age, in the puerperal state, in hysteria, and also when there is reason to suspect the existence of any acute or chronic form of renal or pulmonary disease. In the use of chloroform the ever-present risk of cardiac paralysis appears to be increased when any functional or organic disease of the heart is present, and is, therefore, in such cases, distinctly contraindicated.

Although the number of accidents connected with the use of anæsthetics is fortunately very limited, still he felt sure that by more accurate knowledge of the facts he has mentioned, by entrusting the duty of administering anæsthetics solely to persons of experience and judgment, and by a stricter adoption of the rule so happily formulated by Mr. Jonathan Hutchinson in reference to the desirability of using chloroform in cases below six and above sixty years of age, the number of these regrettable accidents would be still further largely diminished. In the majority of cases, however, he would unhesitatingly prefer ether. In using it, there is greater economy of time; it is, with the necessary precautions taken, safer; there is, as a rule, less sickness, and return to sensibility is slower. To obtain these advantages—which, with others, have been so well and systematically formulated by Mr. Teale (*British Medical Journal*, March 11, 1882)—regard must be largely had to the method employed of administering it; and he is of opinion that one in which the air is rebreathed by the patient, as in the inhalers of Morgan, Ormsby, and Clover, should be preferred, as so great an economy is effected thereby, not alone of ether, but of what is of far greater importance, of heat in the air-passages, the inspiration of a large quantity of cold ether vapor tending to induce respiratory syncope.

In these instruments, the inhalation of a combination of ether vapor and carbonic acid gas occurs. It does not, however, appear to be clearly ascertained whether in this fact there is the introduction of an additional element of danger or not. Opinion on this point is still greatly divided. One would say, *à priori*, that there was; but experience has not established the fact.—*British Medical Journal*, August 12, 1882.

Artificial Production of Monstrosities.—At the meeting of the Académie des Sciences M. Dareste alluded to the interval of time, which elapses between the laying and incubation of the egg, as a cause of abnormal development of the embryo, and said that some recent experiments had enabled him to confirm his views. Although, as is well known, the laid egg preserves for some time its germinating power, there finally arrives a time when the cicatricula becomes disorganized, and consequently incapable of producing an embryo. But between the time when the cicatricula is capable of producing a normal embryo, and the time when it is disorganized, there exists a period in which, though living, its vitality is so altered that it is only capable of producing an abnormal embryo.—*Rev. Scientifique*, Aug. 12, 1882.

Diagnosis of Syphilitic Disease of the Lung, by Examination of the Sputa.—Dr. J. E. Güntz, of Dresden, in a paper on the diagnosis of syphilis of the lung (*Memorab.*, Heft 4, 1882), refers to a paper lately published by Cube in Virchow's *Archiv*, containing the particulars of a case of supposed tubercular phthisis, which was afterwards diagnosed to be syphilitic by the detection of gummy material in the sputa, and in which recovery took place. The author also describes a similar case under his own care, in which the diagnosis was confirmed by microscopical examination of the sputa. A man, aged 35, who had contracted syphilis five years before, came under observation with a gumma on the leg, and with signs of consolidation over a small area in the lower lobe of the left lung on its posterior aspect. The patient recovered for a time under injections of bicyanide of of mercury. A year and a half later, the man strained himself in lifting a heavy weight, and this was followed by hæmoptysis and shortness of breath, without fever or loss of appetite. The previously affected area at the back of the left chest had increased in size, and there were the physical signs of a hemorrhagic infarct. Dr. Güntz presumed that bleeding had occurred around an old patch of syphilitic deposit in the lung. The patient finally recovered. The material which was coughed up, after being freed from blood by soaking in alcohol, showed under the microscope a mixture of granular detritus, groups of granules, cells, fatty matter, etc., some of the specimens showing the appearances depicted in Lancereaux's work on syphilis. Neither blood-corpuscles, nor vessels, nor lung tissue were detected. Some of the preparations were sent to

M. Lancereaux, who informed the author that he found small round cells colored by carmine, such as are found in gummy formations, and that he, therefore, agreed with Dr. Güntz as to the syphilitic nature of the change. The author concludes with the remark that this is only the second case on record, in which the existence of syphilitic disease of the lung has been proved during life, by the coughing up of gummy fragments, and their detection in the sputa.—*London Med. Record*, August 15, 1882.

THE FUNCTIONS OF THE PHRENIC AND INTERCOSTAL NERVES.—At the meeting of the Société de Biologie, held July 29th, MM. HÉNOCQUE AND ELVY presented a memoir, in which they considered the reciprocal effects of sections of the phrenic and intercostal nerves on respiration. While they found that section of the last eight inferior intercostal nerves produced very little change in the character of the respiratory, they drew the following conclusions as to the action of the phrenic nerve:

1. Section of one phrenic nerve modifies the respiratory rhythm of both sides of the chest.
2. The section of the inferior roots on both sides, produces less disturbance than the division of a single superior root on one side.
3. Division of the upper root of the phrenic nerves on both sides, produces the most marked modification of the respiratory rhythm.
4. Section of the upper roots on both sides, produces an exaggeration of the inspiratory movement, lasting more than three quarters of an hour.
5. Section, irritation, pinching or ligature of the upper phrenic root produces great pain.
6. The difference in action of the two roots on the action of the diaphragm, appears to lie mainly in the different degrees of amplitude of inspiration.—*Gaz. Hebd. de Méd. et de Chirurg.*, August 11, 1882.

THE HYGIENIC VALUE OF ANTISEPTICS.—At the meeting of the British Medical Association, PROF. STOKES, as an instance of the hygienic value of the antiseptic practice, mentioned that, in the hospital to which he was attached, the building was a very old one, and was not constructed originally for a hospital. None of the more modern arrangements, now considered so essential, as regards heating, light, ventilation, etc., exist. It is situated in a poor, very densely populated part of the city, with tenement houses, dairy yards, cattle sheds, and stables in its neighborhood; and some of the houses in its immediate vicinity have been designated by the Medical Officers of Health as "fever nests." When he was a student there, erysipelas and pyæmia were not unfrequently observed after operations even of no great magnitude; hospital gangrene, too, he has seen several instances of; in fact, these three diseases constituted a grim trio, of which the surgeons had not unnaturally a dread. Let it not be thought that the occurrence of these was in any way to be attributed to want of care and attention to cleanliness. No cases could in this respect be more conscientiously or carefully managed. What now exists? Hospital gangrene is an extinct disease, nor have we observed, during a period extending over six years, a single case of erysipelas, septicæmia, or pyæmia following an operation in which the practice of Lister was accurately carried out; *accurately*, for everything depends on that. The practice has been well compared to a coat of mail, which secures the wearer as long as it is perfect, but any missing link in which may admit the *lethalis arundo*.

Similar testimony to what he and his colleagues can state has been given by many foreign surgeons of eminence, among whom he mentioned Von Nussbaum, Bardeleben, Thiersch, Von Langenbeck, Volkmann, Esmarch, Saxtorpf, Championnière, and many others. —*British Medical Journal*, August 12, 1882.

BROMIDE OF POTASSIUM IN DIABETES MELLITUS.—The idea of employing the bromide of potassium in the treatment of diabetes mellitus is not a new one. It was first advocated by Begbie, in 1866, who attributed the cure of a case of diabetes to this remedy, but the numerous failures with it subsequently reported threw the drug into discredit. M. FELIZET has endeavored before the French Academy to renew confidence in bromide of potassium for this purpose, and quotes a series of cases of diabetes, in which it was employed with great success, but even he is the first to declare that this remedy cannot be regarded as a specific, a useless precaution, as the very multiplicity of drugs now recommended for diabetes proves that no one of them is a specific.—*Gaz. Med. de Paris*, Aug. 12, 1882.

THE UNION OF NERVES.—M. GLUCK, not long ago, suggested the use of Neuber's "ossein" drainage-tubes (composed of decalcified bone) as a means of promoting the union of divided nerves. His attempts were, however, not successful. M. Vanlair has lately repeated the experiment, avoiding as far as possible any conditions which might have interfered with the results in Gluck's cases, and he has been more successful than the Berlin surgeon. At the first attempt he obtained, in four months, the regeneration of a nerve filament no less than five millimetres in length. From other experiments he has arrived at the conclusion that it will be possible to reproduce nerve segments of almost any length. The details of the operative procedures are not described in M. Vanlair's paper, which was communicated to the Académie des Sciences, and is chiefly occupied by some facts which, proceeding in this manner, he has ascertained regarding the process of regeneration of nerves. These facts corroborate the conclusions of Eichhorst, Ranvier, and Helm, that the regeneration is by a process of peripheral budding. He has also ascertained that a partial restoration of muscular activity, correlative to an anatomical regeneration of the nerve fibres, may occur a long time before the return of cutaneous sensibility. The new growth always commences in the marginal zone of the fasciculi, and only reaches very slowly the axial bundle. Hence the conclusion is drawn that the efficient cause of the proliferation is not the direct irritation due to the division, but the inflammation which spreads from the sheath in consequence of the injury. The maturation of the newly formed fibres proceeds from the periphery towards the centre; the inferior half of the intercalated segment resembles the normal type of structure much more closely than the superior half. The relations which Vanlair has traced between the new segment and the peripheral portion of the nerve are as follows. A distinct fasciculus in the inferior part of the segment may pass through the junction, and then emerge as an altogether independent nerve, to ramify in an adjacent muscular mass. Other bundles pass along the dissociated fasciculi of the peripheral portion without penetrating into their interior, so that a section presents two distinct circumscribed portions, one constituted by young, living, almost microscopic fasciculi, directly continuous with those of the intermediate segment; the other composed of larger fasciculi with degenerate fibres, belonging to the old peripheral segment. Another part of the fibres of the intermediate portion separate and are lost in the connective tissue which forms a swelling at the junction of the old and new portions. Lastly, a small number of new fibres enter the fasciculi of the degenerated fibres,

and pass either into the empty Schwann's sheaths or into the interstices between them, and can be traced for a certain distance from the point of section. Thus the peripheral end seems to be the channel for only a limited number of the new nerve fibres, and to constitute rather an obstacle to the regular progress of the new elements. These observations, if accurate, seem to show that it is a mistake to endeavor to bring closely together the extremities of divided nerves. What is necessary is that the regenerating nerve should be enclosed in some limiting structure such as a Neuber's tube.—*Lancet*, Aug. 12, 1882.

ANTISEPTICS IN EXCISION OF THE KNEE-JOINT.—In the Address on Surgery at the meeting of the British Medical Association, PROF. WM. STOKES said that one of the best tests, if not the best, for the value of antiseptic practice is resection of the knee-joint, as there are so many circumstances that militate against immediate union being obtained after it. In the first place, the cases requiring so formidable an operation are, as a rule, in a condition of great physical exhaustion consequent on long confinement, and probably protracted suffering of mind and body. The wound is of necessity a large one; the operation occupies a considerable time; two large freshly cut bone surfaces are made, between which union is to take place; and, lastly, there is the great difficulty of keeping, no matter what appliance be adopted, the limb absolutely at rest during the process of union. Before the adoption of Listerism, the surgeon anticipated that four, six, or eight months, or longer, would elapse before union took place, and it was always a subject discussed at consultations on these cases, previously to operation, whether the patient would have strength to endure so protracted a suppuration. As an illustration of how changed matters are now, in a series of fourteen of his cases of excision of the knee-joint, the wounds in nine of them united without a trace of pus production; and in the last of them only two dressings were required subsequent to the one applied at the time of the operation, and in seven weeks after the patient was up and going about. Another antiseptic triumph was the case of a boy with extensive necrosis of the fibula, sinuses, and suppuration existing at the time of the operation. He excised subperiosteally the diaphysis of the fibula, and the case pursued a perfectly aseptic course, the evidence of new bone-formation being also incontrovertible. From the fact of there being no pus production subsequent to the operation, notwithstanding the pre-existence of suppurating sinuses, a special interest attaches itself to this case. He can only account for this exceptional circumstance as a result of the careful washing of the sinuses by carbolic acid and zinc chloride solutions. A still more remarkable case was that of a youth who was under his care last November. He trod on a triangular piece of glass, which, having passed deeply into the sole of his foot, was with difficulty extracted. An acute suppurative inflammation, involving the ankle-joint and extending as far as the knee, was the outcome of the injury. There was indicated, by both pulse and temperature, very high fever, and the condition of the patient was most critical. He made free incisions under the spray on both sides of the ankle-joint, and gave exit to pus and synovia in large quantity. Into these openings he injected a weak solution of eucalyptol, and inserted Neuber's drainage tubes. Next day he found pulse and temperature normal, and from this the case pursued an aseptic course, and in less than a month after the patient left the hospital, the foot being in a perfectly normal condition, all motions of its joints being free, and unattended with the slightest stiffness or pain. In another case, he cut down on an ankylosed hip (the limb being so flexed as to be perfectly useless to the patient), and divided the neck of the femur with an osteotome, and straightened the limb. The wound healed without pus production, and a freely movable false joint was formed, and the patient is able to walk several miles without inconvenience.

Another antiseptic triumph was obtained in two cases of amputation at the hip-joint. In one of these there were pre-existing sinuses and profuse suppuration, and, notwithstanding, he succeeded for eight days, during the most critical period of the patient's convalescence, in keeping the wound aseptic, and preventing the occurrence of surgical fever. The result in the second case was more remarkable; not only during the healing of the wound was there no pus production, but pulse and temperature hardly ever rose beyond the normal standard. The skin was unbroken, and on the evening previous to, and also on the morning of, the operation, the patient had a eucalyptol bath. Looking at these few cases—few, not because he could not largely supplement them, but because they were sufficient for his present purpose—he asks, could such results have been obtained previous to the Listerian teachings of the principles and practice of antiseptic surgery? There can be but one reply—impossible.—*British Medical Journal*, August 12, 1882.

ORIGIN OF THE OLFACTORY TRACT AND STRUCTURE OF THE OLFACTORY LOBES.—SIGNOR GOLGI, in the last part of the *Archives Italiennes de Biologie*, states that he has made a series of sections through the olfactory lobes, with a view of determining the connection of the cells and strands of the olfactory lobes. He finds that there is in man and mammals a superficial layer, continuous with the tractus olfactorius, which gradually becomes thinner posteriorly and stretches towards the gyrus hippocampi; a thicker layer of gray matter, rich in ganglion cells; and a layer of nerve fibres, not very clearly defined from the deeper layer of ganglion cells with which they are connected. He maintains that two kinds of nerve cells exist in the gray substance of the lobi olfactorii—one set the processes of which divide into extremely fine fibrils, and are lost in the delicate plexus of the neuroglia, and a second set the fibres of which, though they divide and subdivide, yet preserve their individuality. The fibres of the tractus olfactorius sometimes curve away from their longitudinal course and enter the superjacent gray matter obliquely. The deeper fasciculi of the lobus olfactorius may be traced to the corona radiata, and some, perhaps, into the anterior commissure. Some of the nerve fibres of the olfactory tract originate in the plexus of fine nerve processes of the lobi olfactorii, but are not directly continuous with the ganglion cells of this region. Other fibres, again, are directly continuous with the processes of the ganglion cells.—*Lancet*, August 12, 1882.

LUXATION OF THE CERVICAL VERTEBRÆ.—At the surgical clinic of PROF. GUSSENBAUER, on July 29th, a patient was presented, who, the day before, had fallen into a ditch, and struck on his head, which was violently flexed on his chest, producing a lateral subluxation of the second, third, and fourth cervical vertebræ. The entire cervical spinal column moved together, on attempts to move the head, causing great pain, while lateral movements of the head were impossible. Examined through the mouth, a marked depression was found opposite the second and third vertebræ. The reduction of the luxation, which is generally very dangerous, on account of the liability of compressing the spinal cord, was accomplished by continued extension of the head, by means of a weight, until the normal position and mobility of the neck were attained. Massage and passive movements, which were first tried, were of no avail.—*All. Wiener Med. Zeit.*, August 1, 1882.

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THE SURGICAL TREATMENT OF PERITYPHLITIS.

NOT every case of perityphlitis needs the knife. More than one-half of the cases recover under purely medical treatment. It is nothing rare to see a case with sharp fever, the right leg painful on motion, and possibly drawn up, pain localized usually in the right iliac fossa, a more or less well-defined tumor in the same region, which is tender on pressure, and increases up to a certain size, and then, after a few days, subsides, the case thus terminating by resolution without suppuration.

But, on the other hand, not every case has so happy a termination. A considerable, and, in fact, we might well say, a large number of cases go on sometimes swiftly, at other times slowly but surely, from bad to worse; the tumor increases in size, and finally bursts either externally (strange to say, its least fortunate course), or into some hollow viscus, and the patient recovers after a tedious convalescence, during which he has run the gauntlet of many perils; or more frequently dies, either as a result of exhaustion or peritonitis, or hemorrhage, or some other equally avoidable evil.

Previous to 1867, the treatment of perityphlitis was well-nigh wholly medical. If an unmistakable abscess formed, of course, like any other abscess, it was either opened or more often allowed to discharge spontaneously. Little, if any thing further, was done surgically, although twenty years before Hancock had operated successfully in one case. But in that year Willard Parker established the surgical treatment of the disease, and scarcely any improvement has been made upon the method he then proposed. We call attention to it not to suggest improvements, but to point out the fact that so simple, so useful, and so successful an operation should be far more frequently resorted to, and to indicate some of the conditions which would make it not only justifiable, but advisable. Happily, it is growing in favor, and many of our readers will be able out of their own experience to confirm our views. In June last, one of the few cases done in this city was reported to the County Medical Society.

The operation proper is not commonly a difficult one. The incision should be usually about three inches in length, parallel to and a little above Poupart's ligament. Dividing successively the skin, superficial fascia, the aponeurosis of the external oblique and the bellies of the internal oblique and the transversalis, the direction of whose fibres is a ready guide in their differentiation, we reach the transversalis fascia. If fluctuation or other undoubted evidence of pus now be found, this fascia should be incised at once. If the case be still doubtful, a hypodermic syringe or the aspirator needle may be inserted at different points to find the pus, and once found, the knife may lay the cavity widely open, or, after a small opening, the dressing forceps may be inserted, opened, and withdrawn, thus tearing a vent, as practised by Buck, and since recommended by Lister in other cases, especially those in which vessels might be injured by the knife. If no evidence of pus be found, then the wound may be packed, and the subsequent treatment be guided by circumstances; usually a few days will release a considerable quantity of pus.

The discharge will vary in amount from a couple of ounces up to even a gallon. It is usually very fetid, and in it may sometimes be discovered the foreign body or fecal concretion which has been the cause of the mischief. In a sac formed only by inflammatory adhesions, and especially if it be recent, it is wise not to do too much fingering. Satisfied with a free exit to the pus, it is best merely to wash out the cavity gently by carbolized water; dress with ample absorbent material—preferably the antiseptic, and indeed the whole treatment ought to be such—give the lightest kind of fluid food, and appropriate remedies, and the result in by far the larger part of the cases will be most satisfactory both to the surgeon and the patient. The discharge will be abundant for the first twenty-four hours at least, and during this time the wound should be dressed twice. Of course, thorough drainage should be established either by a single or double rubber tube, but, as Stephen Smith has recently shown, its too long continuance in any wound is hurtful. Hemorrhage is not apt to be severe; in fact, very often not a single artery will require a ligature. The cavity must be made, of course, to heal from the bottom.

When shall such an operation be done is perhaps

the first question to be answered. Shall we wait till a chill, fluctuation, and other evidences of pus are present? If we do, we shall often wait till irreparable injury is done, either by extensive burrowing or by perforation of the bladder, rectum, vagina, or other hollow organ. In some cases it can hardly be said that a well-defined tumor exists, but merely a diffused, poorly limited swelling, with a brawny, hardly doughy, feel, with no fluctuation, and but little œdema, and that, too, long after pus has formed. Yet these cases should be operated on, and almost invariably pus will be evacuated in large quantity. The swelling is not always dull, and at least on superficial percussion may be even tympanitic. In explanation of the foregoing peculiarities we must remember that the pus begins to accumulate usually behind the hollow cæcum; that the wall of the abdomen is separated from the bowel by the peritoneal cavity; and that the abscess, therefore, only compresses the cæcum and affects the abdominal wall secondarily, and after it has reached a certain size.

The earliest operation done has been on the fifth day, but it has also been done successfully after even two years. When the disease has existed for five days or more, as Parker and Burger have shown, the abscess is already a circumscribed one, and diffused peritonitis is then a danger not likely to follow, either spontaneously or as a result of careful operative interference.

The rule for such interference may be stated in a general way as follows: Given a case of perityphlitis which has existed, say for a week or more, no operation should be done as long as the patient is improving, although only gradually, or continues in about the same condition, or until so long a time a time has elapsed as to make it doubtful whether resolution can be expected. *Per contra*, given a similar case of a week's duration or more, with the symptoms we have described, and going from bad to worse, an exploratory operation should be done which will almost certainly lead to the opening of an abscess, although the physical signs of such an abscess may be obscure, or even wanting.

The remote results are usually most favorable, the patient regaining health and strength very rapidly. Troublesome sinuses, however, occasionally remain. Weber reports one case followed by a hernia; and Mason, Partridge, Keyes, and others report cases of recurrence of the disease; the last, indeed, giving the most extraordinary history of subsidence and recurrence of the disease that we know of.

CHINESE MEDICINE.

DR. D. J. MACGOWAN, in his discursive, but highly interesting, "Report on the Health of Wênchow for the Half-year ending September 30, 1881," gives us some very curious glimpses into Chinese medical practice, which illustrate the contradictory aspects of the singular civilization of the Flowery Land. On the one hand, we have records of epidemics extending as far back as A.D. 95, and "more than a score of centuries before Hippocrates wrote of 'critical days,'" the "Yellow Emperor," Hwangti, discoursed learnedly on the same subject; while Dr. Macgowan assures us that the medical literature of China displays great acumen and powers of observation. On the other hand, nothing can well exceed the superstition and fetishism which prevail in actual practice among the people. Pestilence is universally regarded as the work of special demons, not only by the uneducated but by the literati and governing classes. This belief is of old standing, for it is recorded that in 541 A.D., the Emperor Kautsu, on the appearance in the sky of an apparition of "five mighty ones," was told that they were Heaven-sent demons, agents of the five epidemics (of spring, summer, autumn, winter, and pestilences in general), robed respectively in green, white, red, black, and yellow, and each bearing a utensil, such as a hammer, ladle, sword, etc. A great epidemic followed throughout the Empire, in the hope of assuaging which, Kautsu erected a temple and offered sacrifices to the demons, on each of whom he conferred the military title of general. Efforts are still made to propitiate these demons by processions in which they are borne magnificently arrayed, and earnest devotees are found to offer the sacrifice of suffering by bearing for weary miles pots of incense suspended by hooks inserted in the flesh of the arm, which is kept extended by an iron rod passing from the hip to the hand.

Much of this is probably the result of the corruptions of Buddhism and Taoism, for Confucianism, the religion of the governing classes, imparts teachings of a much higher order. Enlightened officials are therefore sometimes found who take a more sensible view of the case, such as the Governor of Wênchow, in the sixteenth century, whose province for several decades had been ravaged by an annual epidemic, until the inhabitants feared to venture out at night lest they should encounter the demon personally. He finally, in 1579, assembled the people and gave them a lecture on sanitary matters, inculcating a reformation in manners, food, and mode of life; and though he permitted the erection of a temple to the five demons, which the zeal of the people accomplished within a month, and which is still standing, his enforcement of the proposed reforms shortly afterwards put an end to the visitation. Even more rationalistic was Chang Tzüchi, Governor of Changchau, when it was depopulated by a pestilence in 1295. He established a dispensary for the gratuitous distribution of medicines, but

found no custom, as the people preferred making offerings in the Temple of the Demons of Pestilence, purchasing charms and amulets of the bonzes, and employing them as exorcists. Whereupon Chang Tzüchi fuddled his soldiery, and before they were sober enough to recognize the sacrilege, he caused them to level the temple to the earth, and he finished the matter by scourging the priests and setting them adrift. But, as Dr. Macgowan remarks, "unfortunately rulers of that stamp have neither successors nor imitators."

Yet Confucianism also lends itself to the propagation of these superstitions, through its admission of ancestor-worship as the only form of religious service. The five demons whom Kautsu promoted to the rank of general seem to have been regarded as the spirits of departed men, and the medical profession in China habitually resort for assistance to the deified spirits of renowned practitioners of the past, who have temples dedicated to them, and who are dignified with the title of Yo Wang, or Medicine Princes. The earliest of these is Pien Ch'iao, who flourished in the fifth century B. C. He was originally an innkeeper, who had the luck to encounter a spirit, from whom he received a drug which, taken daily for a month, so spiritualized him that he was able to see through stone walls, and thus became competent to form a correct diagnosis of the most recondite disorders of the viscera, leading to astonishing cures. It is melancholy to have to add that he was assassinated by the court physician of the Prince of Tsin, whose jealousy he had aroused by curing the prime minister after the physician had abandoned the case as hopeless. Professional heart-burnings to-day are, doubtless, as bitter as they were then, but fortunately they are not manifested in such vigorous style.

We shall hope to hear more from Dr. Macgowan, who is evidently a zealous cultivator of the wide and curious field of observation that lies before him.

THE SUBCUTANEOUS INJECTION OF ETHER.

It should be more generally known that ether injected subcutaneously has a powerful stimulant effect, and is remarkably efficacious in cases of extreme depression of the powers of life. It has long been used to a limited extent in such cases, but increasing experience has enlarged the domain of its application. In adynamic pneumonia, in fevers when failure of the vital powers is threatened, in the puerperal state, in cases of thrombosis of important vessels, the injection of ether has been lately used with singular benefit. Besides, as a stimulant in conditions of depression, it has important applications as a hypnotic and local anodyne. In cerebral excitement and wakefulness, accompanied by depression of the arterial circulation, it is most useful. In the more chronic cases of superficial neuralgia, as sciatica, lumbago, intercostal pain, zoster, etc., ether injected in the neighborhood of the affected nerves often gives surprising relief.

There are contra-indications to its use. It is not proper in the cases of cardiac depression due to chloroform or ether narcosis, and yet it has, in the confusion incident to such an event, been freely injected on the cessation of the cardiac or respiratory movements. Under similar circumstances, alcohol has also been freely injected subcutaneously, but this practice is equally improper—and both for the obvious reasons that these are synergistic agents. Ether, subcutaneously, is also not a suitable remedy when there is arterial excitement with power.

The technical details are simple. Ether must be injected with a glass or metallic syringe. Rubber and celluloid are damaged by it. As ether dissolves the oil with which the piston is lubricated, the syringe should always be put in order after ether has been injected. It is a useful precaution, also, to see that no particles of dirt or of leather are taken up with the fat. Vaseline appears to be the safest lubricant under these circumstances. From ten to sixty minims is the dose—fifteen minims being the quantity most frequently injected. Some smarting attends the operation, but if the operator is careful in withdrawing the needle to press on the orifice tightly, to prevent the ether escaping, much smarting will be thus obviated. A puffy swelling is caused by the vaporization of the ether, but this presently subsides, and only rarely is an indurated knot formed. An anæsthetic and analgesic area of limited extent surrounds the puncture.

The ether used should be of good quality—as good, indeed, as that now employed for inhalation. The number of times injected will depend on the character of the case, but there appears to be no reason why it may not be injected frequently. Three or four times a day has been the rate in cases of adynamic pneumonia. When sudden, extreme depression of the heart is to be overcome, ten or twenty minims can be injected every five minutes, until some result is reached.

The systemic effect is that of a stimulant; the action of the heart is increased, the surface grows warm, and the nerve centres and the organs of the body in general functionate more quickly and powerfully. The curative results of the subcutaneous use of ether are not only different in degree, but in kind, from the stomachal administration of the same agent. This fact must be recognized to obtain a correct notion of the utility of this practice.

HYDROPHOBIA.

The recent presentation to the French Academy of Medicine of a case of so-called hydrophobia, cured by pilocarpine, and the opinion held in regard to it by M. Bouley, probably the best informed person upon this subject in France, or anywhere, prompt us to make some remarks upon this exceedingly obscure disorder.

M. Bouley did not believe the case referred to to be one of hydrophobia. For such an opinion two good reasons are apparent: first, hydrophobia cannot be cured by pilocarpine, or any known drug; and, second, the symptoms of this case were not, as the reporter, Dr. Denis-Dumont, supposed, pathognomonic of hydrophobia.

A man, a woman, and a girl were bitten by the same dog on the same day. The woman died hydrophobic (?) in thirty-six days. The girl has not suffered. The man, on hearing of the woman's death, became excited, took to the fields, ran about wildly, and tried to bite everything that came in his way. On being taken to the hospital at Caen, he showed great dread of fluids, and spasm of the throat on attempting to drink.

These are well known popular symptoms of hydrophobia; but, as is common in imitative diseases, the picture is too strongly drawn—the *idea* is carried out, but the typical course is left behind. Horror of fluids is not a pathognomonic symptom of hydrophobia, spasm of the larynx or pharynx usually occurs, but running wild is almost unknown, and attempts at biting are almost if not quite as rare. Actual biting has, we think, never taken place.

The acts enumerated are not evidences of hydrophobia, but of an excited and perverted nervous system. This is the more obvious in cases like that before us, where the attack was precipitated (upon one who, at the time of the bite, had been sufficiently impressed to cauterize the wound with nitric acid) by hearing that another person, bitten by the same dog, had died with symptoms of hydrophobia.

The fact is, there is no subject in the whole field of medical investigation which is so strange and mysterious as hydrophobia. It would be idle to assert, in the face of recent experiments with the saliva of healthy human beings, that the inoculation of the saliva of an enraged or diseased dog may not cause sickness or death to other animals, of various species. But the plain truth is, that no more is certainly known to-day as to the specific nature of the virus of rabies and hydrophobia, than was known or imagined by the ancients. Those who have given the greatest amount of time and labor to the study of this disorder are the most cautious in pronouncing upon its appearance—the last to claim anything for its treatment.

There are those who boldly say that it is a pure neurosis. Bosquillon, in the beginning of this century, stood up alone against those who considered it to be due to a specific virus, and Lauder Lindsay and Tuke have recently shown afresh that many cases may be attributed solely to the effect of the imagination, while R. White actually inoculated himself twice from rabid dogs, to prove his opinion that there was nothing specific in the virus. On the other hand, Hertwig, Virchow, Bollinger and others in Germany, and Doleris, Bouley, Colin and others in France, have experimented and written to prove the contrary opinion. Bollinger even goes so far as to intimate that the disease may be communicated through the intervention of fleas and lice!

Thus we see that the most opposite views have been held in regard to the nature of hydrophobia. There is no authority so undisputed that it may be appealed to to decide what it actually is. Consequently there is no question which demands for its solution more skill, acumen, thoroughness, and conscientiousness, than that which presents itself when one is called upon to give a name to the congeries of symptoms sometimes seen after bites from dogs, and usually followed by death.

Only by the exercise of the greatest caution can any one hope to avoid stumbling in the darkness which invests this subject. No hasty adoption of the diagnosis of hydrophobia will do, no implicit acceptance of the stories told by patients or friends, no easy belief that one knows what are the symptoms or what should be the treatment of the disorder, if this knowledge has been gained from the ordinary text-books. If ever the mists in which this subject is now shrouded are to be dispelled, it will be by the converging light of many histories of cases, observed with the most scrupulous and intelligent care, and sifted with the most pitiless sifting.

And it should never be forgotten that the more eminent the position of one who speaks on any subject, the more injury is done to the cause of science if he makes a mistake.

"PLANTS WITHOUT EARTH."

Under the above caption, Mr. R. Heath, in *Good Words*, gives an account of the researches of Alfred Dumesnil, the "gardener of Vascœnil," as to the possibility of cultivating plants without earth. He has discovered what he calls a "fertilizing moss," in which he wraps up their roots, and it affords nourishment to all kinds of vegetable life, and for an indefinite time. His experiments have been continued for two winters, during which time his house has been a blooming parterre, while nature without was in her shroud of snow. The process

has been patented in England, and a depot for the sale of the fertilizing moss will shortly be opened.

To chronic invalids this will be welcome intelligence, as a means of beautifying their rooms and of varying the monotony of their lives, while it will afford a ready means, also, of trying the effect of plant life upon pulmonary diseases, to which especial attention has been called by Dr. J. M. Anders. It is said, also, that Dumesnil has even succeeded with the *eucalyptus globulus*, and if this be so, we may find a new means of combating malaria even in our very homes.

In the July number of the same journal, M. Dumesnil gives minute directions as to the method of procedure. He also states that strawberries may be plucked from the vines in the midst of the table, and even dwarf fruit-trees may be similarly utilized.

RE-VACCINATION.

THE value of re-vaccination has lately had strong evidence in its favor on comparing the results of differing practice in the English postal and telegraph services. Exposure is about alike in the two departments, yet the results have been startlingly different. In the postal department between ten and eleven thousand persons are employed permanently, all of whom must be re-vaccinated on admission, unless it has been done within seven years. Among all of these the last returns give but 10 cases, chiefly of varioloid, and not one fatal case.

In the telegraph service, there are but 1500 persons employed, and re-vaccination is not insisted upon. Among these occurred twelve cases, eight of them among persons not having been re-vaccinated, and one died.

REVIEWS.

PATHOLOGIE UND THERAPIE DER RACHITIS. Von DR. LUDWIG FÜRTH, Dozent an der Universität, etc. Wiener Klinik, V. and VI. Heft, Mai-Juni, 1882.

PATHOLOGY AND THERAPEUTICS OF RACHITIS. By DR. LUDWIG FÜRTH, etc.

THIS work is written upon a subject of which there are so many exemplifications in Vienna that the name, "Englische Krankheit," by which it is very often called, sounds like a fine irony.

"Every clinical description of rachitis," Dr Fürth says, "is incomplete, and, if it be held up against the picture of some case that has fallen under the observation of the reader, may but imperfectly cover it. It can only present isolated types, and indeed only those of most frequent occurrence; while again and again rachitis appears in a form possessing only isolated features of these isolated types, or even in one which does not exhibit these at all."

Then the learner may well be on his guard against error, and, bear in mind that, while continued digestive disorders are not necessarily the precursors of rickets, yet they must always be regarded with suspicion, especially if they be accompanied by free sweating on breast and head, even in apyretic intervals. Then, if the case be one of rachitis, what follows may be observed: "The child, which has already begun to walk, which so far has shown little sensitiveness under the ungentle treatment of its care-taker, now cries out on the most careful handling, the lightest grasping of the chest; it experiences pain on being set down, or having its hands taken hold of. The use of the extremities appears no longer as free as before, so that one of the earliest changes in the conduct of the child is its bad attitude; for standing erect, walking, and sitting seem uncertain. The child is anxious in its movements, it seeks all sorts of supports, walks as little as possible, preferably on hands and feet at once, appears unusually dull, and avoids every unnecessary movement; it bends and stoops to pick up any thing from the ground with great constraint and effort, in doing which it helps itself by sitting quite down on the ground and reaching after the object with outstretched hands. The child, heretofore bright, active, and never still, likes to fix itself comfortably and long in one place, because clambering up and down from the chair is an occasion of special toil and hardship. In order to avoid this, it must make peculiar movements, which are pointed out as bad habits. All these are circumstances which finally bring those about the child almost to believe that disturbances of unknown character in the locomotive apparatus of the child must be present or coming on."

But the finely drawn picture of the appearance of a rachitic child is too comprehensive to be given in its entirety; we can, in leaving it, only allude to the details of digestive disturbances, sweating, emaciation, paleness, and finally the characteristic deformity of the bones.

The author discusses the question of congenital rachitis, and doubts the accuracy of the diagnosis in so-called cases. The same doubt is expressed in regard to attacks said to originate much after the end of the third year.

Acute rachitis, an extremely rare form, he holds to have little in common with real rachitis, except the name. As Fürst has said, he believes there may be an acute prodromal stage of a genuine rachitis, but one must not confound with this non-rachitic disorders of nutrition, accompanied, though they may be, with pain and hypertrophy of the bones.

The etiology of rachitis, the author says, is far from exact, and there is no children's disease for which a precise explanation is so utterly wanting. This may be true in a sense, but it is not absolutely true. The author's own words and universal observation may be set against this assertion. The occurrence of rachitis can always be traced to imperfect nutrition, dependent upon bad hygienic surroundings and insufficient or improper food, or upon a depraved constitution incapable of taking advantage of the best surroundings and food, or upon both. Thus, in Vienna, as elsewhere, the greatest ravages of rachitis are among the poor bottle-fed children, deprived of their natural and proper sustenance, and often supplied with the most improper food.

Dr. Fürth denies absolutely the heredity of rachitis—miserable constitutions are often enough inherited, but not rachitis. Indeed, healthy parents may have rickety children, and childen of parents who have had severe rachitis may escape it.

He devotes considerable space to refuting the surprising claim of Parrot, that all cases of rachitis can be traced to hereditary syphilis, a claim which has found few acceptors. That children with syphilitic parents are sometimes rachitic, no one can deny, but that syphilis is always, or even often, the cause of rachitis any one may deny. The logical method by which Parrot arrived at his conclusion is as follows: many

children with rachitis have manifestations like those of hereditary syphilis; they are those of hereditary syphilis; rachitis is hereditary syphilis. A neat and conclusive style of argument. Unfortunately, however, for Parrot, not only are there those who see—as did the Pope in Father Tom's argument that *black* was *white*—a flaw in such logic, but as Dr. Fürth says, "the whole symptomatology of rachitis presents, in its entire course, not the remotest similarity to that of acquired or hereditary syphilis of children." Happily the habit of promiscuously attributing to syphilis otherwise inexplicable phenomena, is not as general as it once was. But it is still widespread enough to call for renewed warning and reprobation, whenever it shows itself.

The next theory Dr. Fürth refers to is that advanced by Oppenheimer, of Heidelberg, who considers rachitis to be of miasmatic origin. Of this the author speaks with a consideration which looks like partiality when we endeavor to find in Oppenheimer's argument the reason for his belief.

As to the essential nature of rachitis we find a most interesting section of Dr. Fürth's paper. Experiments as to the influence of an insufficient supply of certain elements of food, especially of lime salts and phosphorus, are quoted. These experiments are contradictory and lead the author to the conclusion that a genuine rachitis cannot be excited by artificial feeding. The only theory in regard to the immediate cause of rachitis which, in his opinion, continues to find much acceptance is the "acid-theory;" and this, he says, is losing ground of late. This view is thus stated by Seemann: "The impoverishment in lime-salts of rachitic bones is the consequence of a specific digestive disorder, consisting in a deficient production of hydrochloric acid in the stomach. This deficiency in hydrochloric acid is a consequence of the lack of chlorides, which can be procured by the free use of salts of potash." The fact is that no analysis of food, or of excreta, has furnished good reason for attributing rachitis, or freedom from it, to the influence of any one ingredient. It can be charged to poor food or poor assimilation—more precise we cannot yet be.

Of the pathological anatomy of rachitis, nothing new is stated by the author, but his description is full, scholarly and exact. A distinction is drawn between fracture and "infraction," in the latter of which only part of the circumference of a bone is broken, and that usually the convex side of distorted bones.

Of the symptomatology he says, "Craniotabes is a special symptom of rachitis in the first quarter or half year of childhood, appearing in no other disease. It is one of the first, if not almost always the very first, symptom of this disorder. Craniotabes may remain the sole symptom of rachitis, or be the precursor of others." He says that the apparent enlargement of the cranium is not actual, but relative, and depends upon the want of development of the facial bones—a statement, the absoluteness of which might be questioned. He quotes Fisher, of Boston, as having, in 1833, first called attention to the systolic head murmur, heard over the fontanelle, in rachitic children. This is, as the author says, no longer considered pathognomonic.

Of nervous phenomena, he lays great stress upon the occurrence of spasm of the glottis, which, he says, occurs in children under one year, only when they are rachitic. The older ideas as to the prejudicial influence of teething upon rachitis, he inverts into a prejudicial influence of rachitis upon teething.

In speaking of the bony changes, the author makes a mistake, we think, in passing somewhat hurriedly over those of the pelvis, on the plea that they are in the province of the obstetrician. The order of appearance of changes in the bones he puts thus: first, the protrusion of the costal cartilages or craniotabes, then swelling of the epiphyses of the radii, and afterward other changes in irregular order.

The prognosis of rachitis depends, of course, upon the condition and surroundings of a child, and, as the author says, must be the more uncertain, the younger the disease is—that is, until something can be learned by observing its progress. The first sign of improvement is improved digestion.

In the important matter of treatment, Dr. Fürth speaks clearly and positively. Vegetable food is to be avoided as much as possible—a view which is sadly confirmed by the fate of many children in Vienna. Cow's milk he holds to be the very best substitute for human. The most important difference between these two kinds is in chemical reaction, and the usual acidity of cow's milk must always be corrected. The fact that the casein of cow's milk coagulates in much larger masses than that from human milk, is mentioned; but no suggestion made as to how this may be obviated. The addition of barley water, so common in this country, is not alluded to. Dilution is spoken of, and the addition of sugar to approximate the proportion of this constituent in human milk.

As to medicament, great stress is laid upon the treatment of complications. Spasm of the larynx cannot, the author says, be treated as Flesch recommends, by letting the child lie quiet in bed. Something must be done for the credit of the physician and the comfort of the patients. Chloroform and electricity are useless or inapplicable; long-continued administration of bromide of potassium is the most useful plan to pursue, according to his experience.

Cod-liver oil is the best systemic remedy for rachitis; its only contraindication is severe diarrhœa or gastric catarrh. It should never be given on an empty stomach, and the author disguises its taste with syrup of orange, or anise or fennel. He considers the brown, unclarified cod-liver oil as the most suitable. He states particularly that the benefit derived from cod-liver oil is not due to its contained iodine.

Phosphate of lime holds no high place in the author's estimation. Phosphorus, he says, "has entirely disappeared from the practice of our times—the present Austrian Pharmacopœia no longer contains it." Iron, on the contrary, he thinks a valuable tonic. Warm and medicated baths are also useful, especially salt baths. Simple change of air, he says, sometimes produces remarkable improvement in rachitic children.

The last part of the treatment of rachitis, which the author considers, is the orthopædic and surgical. As to the former, he suggests common sense avoidance of whatever is calculated to cause or increase deformity, and speaks very approvingly of Sayre's plaster jacket. Surgical interference must never, he sensibly remarks, be dissociated from proper medicinal and dietetic treatment.

So much in outline of the author's views. Of criticism, there is little to be made. So thoroughly and so admirably has he presented the subject that we rise from our examination of his work with a sense of its value, which brings a regret that it is not accessible to readers unfamiliar with the language in which it is written.

One little drawback to its mechanical construction is the fact that, like not a few other German monographs, it is not adequately divided into chapters and sections. If this were done, and done judiciously, it would be a great help to the reader, both in his first study and in subsequent reference to it.

CORRESPONDENCE.

BRITISH MEDICAL ASSOCIATION—JUBILEE MEETING AT WORCESTER.

WORCESTER, August 12, 1882.

IN continuation of my last letter, I must take up my account of the proceedings on Thursday, August 10. At the general meeting held that evening, Prof. Stokes, of Dublin, gave a very earnest and eloquent *Address in Surgery*. He said that the Association, as it had its birth in the "Faithful City," so it had proved faithful in many good and noble ways—faithful in removing professional jealousies and softening asperities—faithful in protecting with its broad and strong shield those who had been cruelly and unjustly attacked—faithful in its efforts to raise the social status of the profession—faithful in its attempts to extricate public opinion from the quagmires of sentimentalism and folly—faithful in aiding and encouraging the scientific vanguard of the profession. The list of advances in surgery during the last half century was a goodly one. Among these were the abandonment of an indiscriminate bloodletting in almost every form of acute disease, of a reckless use of mercury in the treatment of certain diseases, and of setons and moxæ in hopelessly irremediable articular and other diseases. Having enumerated a goodly list of the modern improvements in surgical treatment, he singled out, as topics which far surpassed in importance all others, the three "giant strides that the past half century has witnessed,"—namely, the discovery and application of anæsthetics, the restoration of diseased or injured bones and joints necessitating resection, and "the enunciation of the principle and establishment of the practice by Pasteur and Lister of antisepticism in the treatment of wounds." Such advances may well make us feel a pardonable pride in British surgery, and give confidence in the coming triumphs of our art. As to anæsthetics, he adverted to the peril which must necessarily attend their administration, and the need for caution and the adoption of such a rule as that formulated by Mr. Hutchinson in reference to the use of chloroform in cases below six and above sixty years of age. He expressed a personal preference for ether, as economizing time, as being safer, and, as a rule, being followed by less sickness and a slower return to sensibility. The best methods for administering it were those in which the air is rebreathed by the patient, and experience had not confirmed the *à priori* belief that this admixture of ether vapor and carbonic acid gas introduced an additional element of danger. After briefly enumerating the advantages of anæsthetics, and referring to Morton's priority in their application to surgical practice, he passed to the subject of antiseptic surgery, in support of which he spoke in terms of considerable force and eloquence. Naturally he referred to the address delivered by Mr. Savory at the Association meeting at Cork, in 1879, where the subject had been adversely handled, and declared that when "the address is stripped of all its brilliant eloquence and rhetorical decoration," it reveals the admission of the germ theory of putrefaction, and the fact that the method of dressing employed by Mr. Savory is essentially antiseptic. Mr. Lister's recent utterances upon the value of the carbolic spray had been much misunderstood; for he did not abandon the antiseptic principles, but looked forward to obtaining more perfect means than the carbolic spray afforded. The various views of the nature of inflammation propounded by Burdon Sanderson, Ogston, and Hueter, as to whether the infective properties of inflammatory products are or are not primarily dependent on the contact of atmospheric organisms, were shown to be equally consonant with the prophylactic principle of antiseptic surgery. The weak point of the "persistent and obstinate opposition" to Listerism is the general admission of the truth of the germ theory of putrefaction; whilst Mr. Lawson Tait's "dead tissue factor" was regarded as a superfluity. "Those who advocate and practise what they are pleased to term a "modified" antiseptic system, attempt, in fact, in a roundabout, clumsy, inefficient way, to do precisely what those who practise Listerism achieve by means which are the outcome of accurate scientific research. The aim in both cases is to neutralize or destroy the agencies which predispose to and produce the *materies septica;* in the one instance by numerous uncertain and often inefficient methods, and in the other by the unerring artillery of chemical agency." Mr. Stokes disposed of the taunt that Listerism lacked originality by mentioning what he had himself seen of Maisonneuve's practice. He considered that ovariotomy was not the best test of the efficacy of the method; one of the best tests of its value is resection of the knee-joint; and he illustrated this from his own experience. He also related other remarkable instances of "antiseptic triumphs," and asked whether such results could have been obtained previous to Listerian teachings. There can be but one reply—impossible. As to its hygienic effects, he mentioned the change that had been wrought in mortality from erysipelas, pyæmia, and hospital gangrene in the hospital to which he is attached—when its present condition is contrasted with that which prevailed during his studentship, an experience which has been so widely repeated abroad. Mr. Stokes then defended Professor Lister and his followers for not having more recourse to statistics in demonstrating the superiority of antiseptic methods, and asked why Mr. Savory made no mention of ovariotomy when he gave the statistics of operations at St. Bartholomew's Hospital. Without himself regarding statistics with the reverential awe of some, he mentioned that at the Richmond Surgical Hospital in 600 operations performed by himself and colleagues during the past three years, the mortality was 3.6 per cent.; "and there was not a single case in which Listerism was accurately employed that was followed by any infectious disease." He enumerated some of the directions in which owing to antiseptics the field of surgery had been widened, and severely commented on the line taken by those who wilfully refuse to acknowledge its benefits, and concluded his remarks on this head as follows: "In the interest and for the credit of British surgery it is time so unrighteous a warfare should cease. It is time that the irritating dust of an unreasoning prejudice should be swept away. It is time that one of the greatest discoveries and boons to surgery this century has produced should be universally recognized as such. It is time that its discoverer and exponent should be acknowledged as one of whom it may well be said—

> "With genius Nature joins in everlasting covenant still,
> The promises of one, the other fails not to fulfil."

In the third part of his address Mr. Stokes dealt with the method adopted for bringing about a regeneration of bones and joints necessitating resection on account of injury or disease, with which the names of Syme, Langenbeck, and Ollier must for ever be associated. He described the conditions under which these operations were most successful, and referred to the great advance made by the introduction of bone-transplantation by Dr. McEwen of Glasgow. Then, speaking more particularly of bone-resection, he urged its performance before any profound organic changes take place. A reference to amputation, and especially to the single flap operation of the late Mr. Carden, of Worcester, closed this survey of surgery, and the rest of the address was occupied by an eloquent vindication of experimental research, and a protest against the increas-

ing agitation that is now maintained in opposition to it. He concluded: "I have mentioned many achievements in surgery the past half century has witnessed. Fifty years hence this great Association will, I hope, again meet here to celebrate its centenary; and my successor will, I trust, with greater ability and eloquence than I can command, tell of as great or greater triumphs than I have done. To enable him to do so we can all aid, some powerfully, others feebly; but still every unit in this great brotherhood can assist; and it should be our ambition as well as our prayer, that when the hour arrives for us to cease from our work, we may all feel, on looking back on our lives, that we have done something to that end. Something—be it great or small—in the interests of our common humanity, in the interests of our loved country, and of a pure devotion to truth, to render the science to which we have devoted our lives nobler and fairer than before."

At the close of the Address on Surgery, the Stewart Prize of 50 guineas was presented to Dr. Vandyke Carter, for his researches on spirillum fever.

The Annual Dinner of the Association, attended by about two hundred members, was held in the evening.

The concluding General Meeting was held next morning, when, in addition to the various complimentary votes, there was a very lively discussion on the question of the *Notification of Infectious Diseases*. This had already been debated in the Section of Public Medicine, but it was determined to take a vote at the general meeting. There is a scheme on foot to make the notification of every case of infectious disease, to the local sanitary authority, compulsory. It has been suggested to throw the onus, and, I may add, odium, of carrying out this scheme on the doctor in attendance. This was warmly debated, and a very general expression of opinion in favor of the general scheme, but making the householder the person responsible for giving the notice, was elicited. I am sure your readers will fully appreciate the objections that may be fairly urged to the original proposition.

The Middlemore Prize of 60 guineas was presented to Mr. Adams Frost, for his Researches in Ophthalmic Surgery.

Reports of various committees were received. This brought the work of the meeting to a close, and excursions and entertainments became the order of the day. Many visited the famed brine baths of Droitwich. In the afternoon the whole Association was received by Earl and Countess Beauchamp, at their seat, Madresfield Court, Great Malvern.

In the evening, the President of the Association, Wm. Hastings, M.P., the son of the founder of the Association, gave a musical *soirée* to the Association in the Shire Hall. Saturday was devoted to excursions to Malvern, Hereford, the Wye, Stratford-on-Avon, and other places of interest in the neighborhood. The meeting was a very pleasant one, but perhaps hardly rose to the occasion of a jubilee. There was a conspicuous absence of London members, probably owing to the exhausting effects of the Congress of last year.

At the second session of the SURGICAL SECTION two important subjects were the main topics of discussion—the surgery of arteries and abdominal surgery.

Mr. Bryant related a case of *Double Popliteal Aneurism*, of which one was cured by pressure, and the other by Speir's artery constrictor with antiseptic (not aseptic) precautions.

Mr. Thomson related the history of his case of *Ligature of the Innominate Artery for Subclavian Aneurism*, and showed the specimen. Subsequent speakers were quite agreed that the fatal result was not dependent upon the ligature of the artery, but was due to ulceration of the drainage-tube sinus, probably opening up the vertebral artery; the ligature (ox aorta) had acted perfectly. The experience of this case was held to be encouraging, but it left it an open question whether in another case it would not be well to ligature the vertebral artery at the same time as the innominate, even if not the common carotid artery as well.

Mr. A. H. Dolman reported a case of *Traumatic Axillary Aneurism* successfully treated by ligature of the subclavian artery. So much difficulty was met with in getting the thread around the artery (the left), that the clavicle was divided to expose the vessel.

Mr. Barwell showed the Aneurism Needle he had had made for cases of this kind, and expressed his belief that had it been employed division of the bone would have been unnecessary.

Mr. Bartleet read a paper on five cases of *Ligature of Large Arteries*. One was a case of femoral aneurism, for which he tied the common femoral trunk with chromic catgut; the wound did not remain aseptic, and secondary hemorrhage came on. The wound was then opened up, when it was found that the artery had separated one-tenth of an inch above the ligature. The two ends of the vessel were then tied with a hempen thread. Again there was repeated secondary hemorrhage, for which the external iliac artery was ligatured with whipcord, with a final successful result. This case presented many features of great interest from a practical point of view, and would in itself have afforded ample material for a good discussion.

Mr. Bennett May related a case of *Ligature of the External Iliac Artery* and discussed the best material for ligatures, and stated that there was more difficulty in getting primary union of a wound when chromic catgut was used than when carbolic gut was employed, and he expressed his preference for common catgut soaked for a long while in carbolic oil.

Mr. Robson showed an *apparatus for obtaining an antiseptic atmosphere to replace the carbolic acid spray in surgical operations*. Asserting that while the carbolic acid spray was aseptic, it was not antiseptic, and was also harmful, Mr. Robson advocated the value of an antiseptic, dry, non-poisonous atmosphere. This he obtains by pumping air through cotton-wool to purify it from all suspended impurities, and then through eucalyptus oil. To show the antiseptic value of an atmosphere of this kind, he had taken several large, wide-mouthed glass jars and poured a little of this oil into each, and had then suspended jars of sterilized hay infusion in them, and had removed their cotton caps for various periods, and in every instance, except one, bacteria had not subsequently developed in the infusion. He had also used it for surgical purposes, and Mr. Spencer Wells had used it during the excision of a mamma, and had expressed himself pleased with it.

Mr. George Elder related a successful case of *Nephrotomy and Nephrectomy* for scrofulous pyelitis.

Mr. Lawson Tait showed a girl from whom he had excised a kidney through the linea alba, and he also showed the kidney, which was sacculated, and contained a large calculus.

Dr. Cullingworth related a case of *Nephrectomy for Hydronephrosis* by abdominal section, in which the patient died from shock twelve hours after the operation; and in reference to this case Mr. Tait remarked that he should never attempt nephrectomy for renal cysts, as the operation of incising and draining these cysts, proved so successful in his hands.

Mr. Lawson Tait recorded a third successful case of *Cholecystotomy*, and showed a large number of gall-stones he had removed from the gall-bladder. The gall-bladder formed a prominent abdominal tumor, and it was an interesting feature of the case that, although the cystic duct was completely obstructed, there had not at any time been jaundice. He opened

the gall-bladder, and stitched the edges of the wound in it to the abdominal incision, and extracted a large number of stones. The discharge had continued mucous until that week, when bile had made its appearance, showing that the duct had become patent again. Mr. Tait therefore intended to freshen the wound, and close the sinus.

Mr. Lawson Tait then read a paper on *100 Consecutive Cases of Ovariotomy* performed during the last thirteen or fourteen months, and in which he had not used any kind of antiseptic measure. Of these three patients died, one from choking during vomiting, and two from venous thrombosis starting at the pedicle and spreading quite up to the heart. Six of the patients were pregnant at the time of operation, one in addition had acute peritonitis, one of them miscarried, all got well, and five were delivered of living children at term. Four patients had acute peritonitis at the time of operation, and all recovered. In two the tumor was solid fibroma of the left ovary, in ninety-eight it was cystoma, of these eleven were parovarian cysts, sixty were cysts of one ovary only, and among these were the three deaths, and twenty-seven were cysts of both ovaries. In fifty-three cases there were serious adhesions, but he had not found that this factor in any way added to the mortality. Of the three fatal cases there were no adhesions in two, and slight parietal adhesions in the third. In seventeen cases the tumor was sessile. All these cases were dressed with dry absorbent cotton-wool; in about one-twentieth of the cases a part of the wound opened, and then it was dressed with zinc ointment or red lotion. Mr. Tait attributed his improved mortality: (1) To the total abandonment of Mr. Spencer Wells' clamp; (2) to the thorough cleansing of the peritoneum, as recommended by Keith; (3) to the draining of the peritoneum, as recommended by Keith; (4) to increased personal experience; (5) to the diminished number of cases which had been previously tapped; those (two) of his patients who had died from thrombosis had been tapped, one sixteen and the other thirty times. He believed that if tapping was never adopted there would be no mortality except from tetanus and similar outstanding risks; (6) the complete abandonment of antiseptic treatment; (7) the establishment of hospital discipline and hygiene; this he deemed of so much importance that in only exceptional circumstances would he consent to operate in private houses.

Dr. Ward Cousins said that one danger of tapping was rotation of the pedicle on itself.

Mr. Coates (Salisbury) said that it was very difficult to harmonize Mr. Tait's statements with those of Dr. Stokes earlier in the day in reference to *antiseptics*. But his experience in general surgery was that while before his adoption of the Listerian treatment he did not obtain primary union of wounds in one per cent. of his cases, since that adoption he obtained it in every case. He incidentally mentioned a case of a very large splenic tumor, in which he was urgently requested to do, at any rate, an exploratory operation. On opening the belly and passing in his hand he found a large number of soft very vascular adhesions between the tumor and the abdominal wall, in tearing through which there was very free hemorrhage; when this had ceased he closed the wound. The patient recovered, and from that time the tumor rapidly shrank in size.

Mr. Thomson referred to the great diminution in the mortality of his cases that Mr. Tait observed when he first adopted the antiseptic treatment, and maintained that the results of general surgery abundantly proved the value of this treatment.

Dr. Bantock, in opposition to Mr. Tait, maintained that adhesions of ovarian tumors to intestine and pelvic organs are serious complications of ovariotomy. He had given up antiseptics, and he had not had more septicæmia than other operators who had used it, and he asserted that Listerism had not freed us from septicæmia.

Dr. Sutton (Pittsburg) had spent a considerable period in studying European surgery, and he stated that in Berlin, Vienna, Halle, Kiel, and Leipsig he found antiseptics everywhere, and such results that on coming to England he dared not have opened the abdomen without employing antiseptics; but then he went to see Keith's practice, and his views were changed; for Dr. Keith and his son (who had done five cases) had had a run of fifty cases of ovariotomy with only one death; and he had Dr. Keith's authority for stating that he had never used the carbolic spray stronger than was recommended by Prof. Lister. He had also seen Mr. Tait's practice for three or four weeks, and he had been very careful to watch his practice closely; for he had been told that he was a man who did not speak the truth; but he had only seen one of his wounds in which there was a drop of pus—one already mentioned by Mr. Tait. In America antiseptic surgery had many friends in the East, but had not made much headway out West; and since the International Congress all American surgeons were waiting to see what the English surgeons would make of this question.

Dr. Ed. Taylor, who was for some years Mr. Spence's assistant, said that the question was one of careless surgery *versus* first-rate surgery. Listerism was but a cover for careless surgery, the results of which had been equalled by Mr. Spence's first-rate surgery.

Mr. Tait, in reply, said that the unfair treatment he had received in London had reached such a point that he had had to threaten one gentleman with an action for libel. He advocated placing the operation of ovariotomy in the hands of a few surgeons only. In reference to the question of antiseptic surgery, he stated that he found one great argument against it in the constant changes which were being introduced into it. One preparation was always being abandoned in favor of another; the original catgut ligature was replaced by the chromic gut; and a new method of preparing the latter was recently introduced. If the practice were as perfect as had been represented, it would not need such constant modifications.

The last meeting of the section was mainly taken up with a discussion on *bone-setting*, which was opened by Mr. Howard Marsh, who referred to the cases benefited by "bone-setters;" and urged that these should be taken in hand with more boldness by surgeons, while many cases of stiff joints should be prevented by more judicious treatment.

Mr. W. Adams followed with a paper on the same subject, in which he attempted to classify the cases which would be benefited by forcible movement; and he urged that the treatment should be gradual and prolonged, rather than rapid.

Mr. Dacre Fox, who had assisted one of the family of Taylors, for many years "bone-setters," gave a very interesting account of the work of the firm. He said that in his experience "bone-setting" consisted largely in the treatment of recent fractures and sprains, and to only a limited extent in stiff joints. He urged surgeons to take more pains in the treatment of sprains, strains, and other apparently minor and simple injuries, which, if neglected, were often attended with grave inconveniences.

Mr. Pearce Gould, referring to cases in which the adhesions were mainly, if not entirely, extra-articular, said that it was of importance to break down all the adhesions at once, and then to persevere with passive movement to the full extent daily, and gradually bring up the nutrition of the wasted, disused muscles, by ac-

tive movements; perseverance on the part of surgeon and patient was very necessary.

At the first session of the SECTION OF OPHTHALMOLOGY, a discussion on the *Extraction of Senile Cataract in its Capsule* was opened by Dr. Edwyn Andrew, who described new instruments to separate the lens in its capsule, by tearing through the suspensory ligament. To obviate all pressure upon the globe during the operation, he has discarded all forms of speculum, and instead he passes a thread of catgut through one or both eyelids, and by it has the lid or lids held apart and away from the globe. Dr. Andrew advocated a more frequent resort to this operation. The general opinion elicited was, that this mode of cataract extraction is good in over-ripe cataract, and that it is easier to perform the older the patient, owing to the lessened resistance of the suspensory ligament in old age. In connection with this latter point, Mr. Priestley Smith stated the interesting fact that, having experimented on the extraction of the lens and capsule on the dead body in many cases, he had found it was much easier to do it in the corpses of aged persons. Mr. C. Macnamara, whose name is associated with this operation, and who has had a large experience of it, stated that he prefers it to any other in properly selected cases, and particularly in old people.

Next day Mr. Anderson Critchett read a paper on the *Treatment of Lamellar Cataract*, in which he advocated, in preference to removal of the lens, the formation of an artificial pupil by Tyrrell's hook.

Dr. Arthur Benson followed with a paper on the *Treatment of Partial Trichiasis*. The plan Mr. Benson recommends is to thrust one pole of an electrolytic machine into the eyelid, towards, or, if possible, into the erring hair-follicle, and to place the other pole on the forehead. The object is to destroy the hair-follicle, and the treatment is continued until the eyelash comes out easily with the root-sheath attached.

Mr. Nettleship and Mr. Priestley Smith related three cases of *Atrophy of the Optic Nerve*, followed by continuous dropping of watery fluid from the nose. The fluid possessed negative characters, and was not cerebro-spinal. In one of the cases there was evidence of a growth in the nose, and in another the nasal mucous membrane was thickened and excoriated, but whether as the cause or the result of the discharge was not known. In one case there were also curious nervous symptoms, drowsiness, and stupor, when the flow temporarily ceased; and during one of these attacks the patient died, but an autopsy was not obtained.

Mr. Priestley Smith showed at this meeting a *new registering perimeter*, which had the merits of simple construction and inexpensiveness.

Mr. Nettleship opened a discussion on the *Value of Eye Symptoms in the Localization of Brain Disease*. The principle points alluded to were uniocular papillitis, with evidence of intracranial disease; optic-atrophy, especially in relation to color-blindness; hemianopsia, and the recently recorded cases of hemiachromatopsia, the author thinking it probable that, in most cases of hemianopsia, the lesion is higher up than the optic tract; cerebral amaurosis from lesion of the occipital lobes; ocular paralyses, peripheral, nuclear, and cortical. Attention was called to several other conditions bearing more or less closely on the subject—*e. g.*, "pseudo-glioma," with brain symptoms, recoverable infantile amaurosis, hydrocephalic choroiditis, megrim, complicated herpes of cranial nerves, and others. A short discussion followed, in which Dr. Edwyn Andrew, Dr. Hughlings Jackson, and Mr. Priestley Smith took part.

At the first meeting of the SECTION OF PATHOLOGY, Dr. Stephen Mackenzie opened a discussion on *Diabetes*. He specially referred to the cause of death in diabetes, and the nature of diabetic coma, which he discussed, maintaining that it was complex, in the majority of cases being due to acetonæmia, and in only a small proportion of cases due to fat embolism. He agreed with others in believing this coma to be most common in young subjects. The statistics of the London Hospital were quoted to show the relative frequency of the various complications of diabetes. Dr. Saundby stated that although he had carefully looked for it he had not often succeeded in demonstrating fat embolism in death from diabetic coma. Dr. Shingleton Smith contended for the nervous origin of diabetes; and as one piece of evidence related a case of tumor in the cervical region of the spinal cord, which was accompanied with glycosuria.

At the same meeting Mr. Jonathan Hutchinson opened a discussion on the *etiology of tumors*, in which he insisted on their local origin, and dwelt particularly upon rodent ulcer and the precancerous stage of disease. Sir James Paget contended for the dual origin of malignant tumors, constitutional tendency, and local change. Mr. Butlin gave an excellent demonstration of the microscopical appearances of the chief forms of tumors. Dr. Thin showed some hairs in which trichophyton tonsurans had been artificially cultivated; and Mr. Abraham gave a very interesting demonstration of granulation tissue in a sponge network as obtained in the new process of sponge-grafting.

The closing meeting was opened by an exhaustive paper on *Rodent Ulcer* by Dr. Sangster, in which he clearly established the fact that the disease is not primarily connected with the sweat-glands. but that the morbid change starts from the Malpighian layer and outer sheath of the hair-follicles. Dr. Thin disputed this view.

The rest of the morning was occupied with a demonstration of various forms of *bacilli*, which excited a good deal of interest, and was one of the most successful events of the meeting. Dr. Heron showed Ehrlich's process of preparing tnbercle bacillus, and he was followed by Dr. Gibbes, who demonstrated his process of preparing the same bacilli, which has already been described in THE MEDICAL NEWS (Aug. 19), and it was very evident that this process, while decidedly simpler than Ehrlich's, is also more effective, and is, therefore, more useful. Dr. S. Mackenzie also showed a specimen of tubercle bacillus prepared by Goltdammer's method.

In the SECTION OF OBSTETRIC MEDICINE, Dr. Bantock read a paper on his cases of *Hysterectomy*, and in the subsequent discussion, Drs. J. Williams and Wallace strongly deprecated a frequent resort to this operation, asserting that the cases justifying it were but very few.

Dr. Edis gave a *précis* of the rational treatment for Menorrhagia, and Dr. C. H. Routh described a form of Dysmenorrhœa associated with Gonorrhœa.

The second meeting was entirely taken up by a discussion on *Subinvolution of the Uterus*, its causes, its relation to uterine disease, and its preventive treatment, which was opened by a paper by Dr. John Williams. He referred to the various methods for determining the progress of the involution of the uterus after delivery, to the work of Heschl, Dupaul, Sudukoff, Melson, aud Sinclair. The uterus disappeared into the pelvis on or before the twelfth day after delivery, if involution goes on healthily. Taking this as a standard, Dr. Williams found, from the study of 113 cases, that the causes of involution are post-partum hemorrhage, retention of portions of placenta or membranes, lacerations of the perineum, pelvic inflammations and fever during the lying-in period. Lacerations of the cervix do not appear to give rise to it. Subinvolution causes menorrhagia, dysmenorrhœa, and prolapsus. The pelvic in-

flammations so frequently associated with it are not its results. Its peculiar treatment consists in completely emptying the uterus after delivery, maintaining an efficient contraction of the organ, and in preventing fever. The best means of securing the last two are the frequent use of hot disinfecting vaginal injections, and perfect closure of tears of the vaginal orifice.

In the SECTION ON MEDICINE, Dr. Austin Flint read an able paper on the *Self-limited Duration of Pulmonary Disease*, and advocated the employment of the binaural stethoscope.

Dr. Balfour opened a discussion on Chlorotic Murmurs. Dr. C. T. Williams spoke on the Contagious Nature of Phthisis. On the last day, Dr. Leech opened a discussion on the Treatment of Cardiac, Hepatic, and Renal Dropsy.

STUDIES IN THE BERLIN GESUNDHEITS-AMT.

The Detection of the Bacillus Tuberculosis—The Investigation of Air, Water, and Soil.

GENEVA, August 12, 1882.

THE proverbial circumstances which alter cases, dispose as freely of the location of individuals, and so your correspondent found himself transposed from Berlin to Rome, and from Rome to Geneva, where alone there has been time offered for further communication. Everywhere over the face of the earth it was plain to see how hard is the struggle for existence among the children of men, and how oblivious the most of them become to anything but the wants of daily life. The struggle in politics which is just as bitter everywhere here as with us, is only another phase of this engrossing subject, and everywhere there is this struggle between those who have the power, including the means of subsistence, and those who have it not. Liberals and conservatives are the party names all over the old country, except in Rome. But in Rome it runs liberals and clericals, which latter party has, by the way, just suffered a general defeat.

These truly philosophic reflections would be out of place in a medical journal, were they not suggested by the observation that the same divisions obtain in the medical world, and that physicians, too, like other men, group themselves under the classes of conservatives and radicals, as regards every new discovery. The question is, not so much is the discovery true, but does it accord with preconceptions? So that it is useless to write the opinions of the so-called leading authorities. The truth is, that very few observers, indeed, are competent to give an opinion upon any subject connected with micro-organisms. And they who are competent are the most reticent, until they have subjected the question to individual study. I heard Dr. Koch one day deeply deplore the *laicisation*, if I may use the French term of his discovery, as something premature. "Such things require time," were his exact words, to be worked up by many observers from many different standpoints, and this whole method of investigation is not intended in any way to substitute or supplant, but to take its place modestly beside the other well-known and long-established lines of study, out of which it grew. The "newspaper notoriety" is a matter of regret, I happen to know, to the author of this new means of study, and it is a great injustice on the part of medical editors to attribute anything of it to Dr. Koch. A more modest, unpretentious, patient, plodding, worker, reverencing his profession, and his predecessors in it, seeking nothing but the truth, it has never been my fortune to have met.

But after all, what are these but trivialties to the question itself? Is it true? And how essential it is, if true, that it, with every detail, be immediately spread abroad, that every one who is competent may verify it, and utilize it for himself.

And let not the beginner be discouraged by failures in his first attempt. If the recognition of the bacillus tuberculosis, to confine ourselves for the present to this most important question, had been an easy task, it would have been discovered long ago. I have heard enough to know that if all the researches made in the Berlin laboratory alone could be published, it would make a contribution that would be a monument to the patience and persistence of mankind. There was the great advantage in the study of tuberculosis, over nearly every other one of the acute infectious maladies, that it is a disease which is common to most of the lower animals as well as to man; common to all in very much the same form, and of how very few of the other common infectious diseases could this be said? Consequently there was no limit to the field of experimentation. The first results were reached, however, by a process that was almost painful in the exercise of patience it required. Moreover the slightest flaw in the process would easily nullify the result. No sooner, however, had the essence of the disease been recognized than improvements began to show themselves at once in the technique of the process. So, for instance, it was soon found that the coloring solutions of Ehrlich saved a very great amount of time, and, in fact, these solutions are now in common use, in the detection of the bacillus tuberculosis. But a mere knowledge of this fact will not enable the beginner to find the objects he seeks. He must know the exact proportions in which these solutions are to be used. Thus to the saturated solution of aniline oil one hundred grammes by weight, he must add of the coloring matter solution (both fully described on previous occasions) eleven grammes. Such a nicety of combination might seem what Mr. Johnson would call "a scrupulosity," but long experience has shown that these are precisely the proportions which give the best results. This constitutes the first color, and if the exact proportion was not specified before, it was because its author had not yet made it public, a bar which is now removed. The specimen prepared, as thoroughly detailed in previous letters, is now treated to the decolorizing agents, and the subsequent staining with the aqueous solution of vesuvin, steps which I described with the utmost possible minuteness in my previous letters.

And when the specimen is thoroughly prepared, the next step is the instrument itself. A common microscope will not easily disclose the bacillus tuberculosis. It is done with the common lens every day, but by no means with the ease or distinctness shown under the new improvements. The microscope should possess the Abbé illumination apparatus, which is a series of lenses under the stage, and be provided with the oil immersion lens. The use of the oil immersion lens is just as simple as the ordinary lens, the difference being that with the former a drop of the oil of cedar is let fall upon the cover glass and the lens enters it in bringing the object to a proper focus. Then in the use of the color tests, that is, in the recognition of color and not of structure, the diaphragm is not used at all. I have written all these points with perhaps superfluous minuteness, in order to put the study of the subject in the hands of the beginner.

But besides all these preparations of the specimen, and besides the possession of the best possible instrument, there is another requisite which is a *sine qua non*. There must be an eye at the other end of the microscope which can distinguish what it sees. Right here, I may say, however, that very little practice will enable any one to recognize the bacillus tuberculosis. Because it is not the fine question of structure, but the gross question of color. A violet or a blue body in a clear brown field is such a very distinct object that a few observations will soon pick it out. Any body who can

recognize a blood corpuscle can recognize the bacillus tuberculosis, although it is rod-shaped of course, and not round, and is but about one-fourth the size of a blood corpuscle. But it is not so much the shape or structure, I may repeat again, as the color, which will at once strike the eye. Let the student recognize the presence of it first, and he can soon work out its characteristics later.

I began this letter with the intention of describing the means of analyzing the air, water, and soil which are adopted in Berlin in the detection of bacteria, micrococci, and bacilli, which elude any other means of observation. These investigatjons are full of promise in the study of the etiology of all the acute infections, and have already yielded the very important conclusion, that it is the air, and not so much the water or the soil, which chiefly contains and distributes the pathogenic organisms.

Many new improvements have been introduced in the study of the mycology of the air, the chief of which consists in the use of a long glass cylinder drawn to a very narrow tube at one end and covered with a rubber shield at the other.

The air of a given locality is drawn through the cylinder by a pair of bellows. The cylinder rests horizontally, of course, and it contains along its canal a layer of the sterilized gelatine mixture, which is poured in hot and solidifies in cooling. A given quantity of air having been drawn, as stated, through the tube, the rubber shield is attached to one end, and the other open narrow end is closed by a plug of sterilized cotton. In the course of twenty-four hours the germs begin to show up on the surface of the gelatine in the form of the well-known opacities, "vegetable moulds," which first appear in isolated spots, to gradually increase in size, and finally coalesce. Before this coalescence, however, a fragment may be removed from any opacity and studied under the microscope, where its character as micrococcus, bacilius, or simple *pilze* may be readily recognized. Quite a picturesque appearance these tubes present at a certain stage of development of the germs, spotted and dotted as is the surface, and sometimes the depths of the gelatine culture substance. Of course, in a day or two longer, the spots coalesce, the gelatine is fluidified, decomposed, and further observation rendered *nil*. But this process is easily retarded by placing the cylinders in an ice-chest. It is always seen that the number of germs is greatest at or near the entrance into the cylinder, that is, that the germs begin to fall at once upon the surface of the culture substance, to become fewer and fewer towards the rubber or bellows end. But isolated germs are carried completely up to the bellows end, as is seen by their development into patches or opacities in the course of a few days. The number of these opacities in the whole cylinder gives of itself a coarse idea of the purity or impurity of the air, and the examination of them under the microscope reveals their precise character.

In the examination of water and soil, resort is had to a different procedure. The culture substance is poured upon glass slides, where it solidifies. The gelatine is now inoculated, if I may use the term, with the water on the earth, and a number of the slides are banked up so that each is separate, of course, and the whole bank, containing perhaps twenty slides, each of which has three inoculations, is placed in the moist chamber described in the treatment of the potato. Here, too, in the course of twenty to thirty hours the opacities begin to present flocculi, as it were, which gradually increase in size. Often enough the "flocculi" are seen under examination by the microscope to be composed of several kinds of micrococci and bacilli, or are commingled with the common vegetable *pilze*. Then all that is necessary to get a variety pure is to reinoculate from the purest place another set of slides, and thus to finally arrive at the isolation of individual germs.

One of the most important conclusions reached by this means of study, was the discovery of the fact that the upper layers of the soil are always rich in bacteria and bacilli, while micrococci are present in much less degree. With reference to this interesting point, I may as well quote literally from Dr. Koch's report to the Health Office some time ago.

"Samples of soil from very filthy places, for instance, from accumulations of manure, showed an excess of micrococci, with the presence also of the vegetable fungi (schimmel pilze), but this is always only a local phenomenon. On the other hand, the upper layers of cultivated soil (horticulture and agriculture) show constantly and in great quantity the presence of bacilli. Such organisms were found in the soil of the garden of the veterinary school at Berlin just as abundantly as in the earth of a long-disused burial ground, or as in samples of soil taken from fields and gardens far removed from inhabited places." The author goes on to state that when these samples of earth are allowed to dry, the few micrococci present disappear in the culture substance, but the bacilli remain just as abundantly as before the desiccation. Hence it is concluded that the micrococci soon perish when dry, while the bacilli in the form of spores still remain alive. And this view is confirmed by the fact, as proven by experiments with disinfection by heat, that the germs of bacilli withstand a degree of heat which is fatal to the maturer forms. The author considers it probable that these bacilli spores do not spring up in the earth where they are found, but that they are wafted thither from distant products of decomposition, or are carried over in the dust of the air. It was by means of these investigations that the author arrived, also, at the very curious fact that all micro-organisms, however abundant on the surface of the earth, gradually diminish in its depths, so that at the short distance of one metre (40 inches) the earth is almost free. Even in the middle of Berlin samples of earth at the depth of one metre were entirely free from bacteria or bacilli, and showed upon the surface of the gelatine culture substance but very few scattered colonies of the smallest micrococci.

As to these terms, bacteria, bacilli, and micrococci, I may say that the lines drawn in Berlin are rather arbitrary. At least this is the case with reference to bacterium and bacillus. Of course, the micrococcus is always round and is always small, though different species vary much in size. The bacterium is a sort of transition stage between the micrococcus and bacillus, that is, it is, let us say, egg-shaped or elliptical. Whereas the bacillus is always the little rod. These are the gross differences as regards size and shape that are coming more and more into use in the description or differentiation of micro-organisms.

But this means of investigation is by no means limited to the air, the water, and the soil. It has a range which is almost infinite in extent. The author himself has suggested, and some of his co-workers have undertaken, the study of various articles of commerce (money, for instance) and of food. Milk offers a field of study by itself, and the mysteries of meat (sausage) poisoning, not due to trichinosis, may be made to display themselves upon the little surface of these gelatine slides.

J. T. W.

NEWS ITEMS.

THE BILLS FOR ATTENDANCE ON PRESIDENT GARFIELD.—A Washington dispatch to the Philadelphia *Times*, says that

"Drs. Bliss and Reyburn have at last filed their

claims before the Board of Audit, designated by Congress to settle claims for expenses incurred during the illness and death of the late President Garfield. The former desires $25,000 for his services, and the latter $10,000, which, if allowed, would exhaust the amount to be paid for medical attendance. It was originally proposed to appropriate $75,000, to cover all the expenses, but the Senate reduced the amount to $57,500, which was concurred in finally by the House. Of this, $35,000 was to be distributed among the medical attendants, and the remainder among such other claimants as might present satisfactory evidence in support of the demands.

"Before filing his claim before the Board of Audit, Dr. Bliss notified Drs. Agnew and Hamilton that he intended to ask for $25,000, and requested to be informed as to their demands. Neither of these gentlemen has replied, but it is understood that their claims will be for $15,000 each. Dr. Reyburn in his bill claims compensation at the rate of one hundred dollars per day for sixty-seven days, and a like amount for the alternate nights spent at the late President's bedside. Dr. Boynton and Mrs. Edson are not recognized by the attending physicians in any other light than nurses, although Dr. Agnew has requested a decision from the Board, as to whether it will recognize the two attendants as beneficiaries under the head of medical attendance.

"Dr. Bliss, in his statement, tells how the physicians were called into the case. Regarding himself, Dr. Bliss says that he was placed in charge, and was daily and nightly in attendance. The unremitting strain upon mind and body, accompanied by loss of sleep, produced the usual results, and besides losing thirty-eight pounds in weight, the doctor says that the sepsis of the patient was communicated to him, causing secondary abscesses, which lasted for upwards of three months.

"Dr. Bliss further sets forth that, in estimating the value of his services, the degree of responsibility should be considered, for, besides a skilful conduct of the case, he and his assistants were burdened with the hopes and fears of the nation. He had to give up his private practice, and when he resumed it again he was so prostrated as to be able to do but a small part of his usual labor. At the time the President was shot his professional income was $1,500 per month, and the first month he resumed practice after the President's death, his income was but $1,000. He estimates that his services to the President cost him $15,000, and insists that he should not only be reimbursed, but compensated, and that he is entitled to $25,000."

Tri-State Medical Society.—The eighth annual meeting of this society will be held at Terre Haute, Ind., September 26, 27, and 28, 1882.

Garfield Memorial Hospital.—On August 1st, according to the *Lancet*, a meeting was held in Queen Square, Bristol, to promote a movement for the erection of an International Hospital at Washington, in memory of the late President Garfield.

Compulsory Vaccination in Switzerland.—The French journals announce that compulsory vaccination has just been rejected in Switzerland by a *plébiscite*.

Prof. von Langenbeck held his last clinic on Saturday, the 29th of July. The amphitheatre was dressed with greens and flowers. The former assistants of Prof. Langenbeck in Kiel and Berlin have presented him with a handsome silver table service.

English Hospital in Jerusalem.—The Sultan of Turkey has given a site in Jerusalem, for the purpose of erecting a hospice and ophthalmic dispensary, under the auspices of the English branch of the Order of St. John.—*Louisville Med. News*, August 26, 1882.

Literary Notes.—Dr. Habershon's well-known work on *Diseases of the Abdomen* has been translated into Spanish by Dr. Jeinenez Verdigo, of Madrid.

Glasgow Medico-psychological Association.—At the annual meeting of the Medico-psychological Association of Glasgow, recently held, Prof. Gairdner was elected President, as successor to Dr. Hack Tuke.

The University of Berlin.—Prof. Du Bois-Reymond has been elected Rector of the Berlin University for the next two semesters, and Prof. Bardeleben Dean of the Medical Faculty.

Hip-joint Amputations.—During the past month, three cases of amputation at the right hip-joint were performed in England, with the aid of Mr. Davy's lever for controlling hemorrhage. A case where Mr. McLaren, of Carlisle, operated, lost two ounces of blood; a second patient, under Mr. Cowell's care, at the Westminster Hospital, lost three ounces; and the third case, where Mr. Paul Swain, of Plymouth, performed amputation with the assistance of Dr. Bampton, lost but one ounce and a half. All these patients are progressing favorably.—*Brit. Med. Journ.*, August 12, 1882.

The Common Mushroom.—Prof. Ponfick, of Breslau, has been making experiments on the common mushroom, and tells us in detail, and with the authority of science, what was somewhat vaguely known before, viz., that all common mushrooms are poisonous, but cooking deprives them in a greater or less degree of their poisonous qualities. The repeated washing with cold water, which they usually undergo to clean them, takes away a portion of the poison, and boiling does the rest; but the water in which they have been boiled is highly poisonous, and should always be carefully got rid of. Dried mushrooms are still dangerous for from twelve to twenty days; they require to be dried for at least a whole month, and are only really safe after four months' drying.—*Med. Times and Gaz.*, August 12, 1882.

Circulation of the British Medical Journal.—According to the report of the Council of the British Medical Association, at the meeting on August 8th, the weekly issue of the *Journal* now numbers 11,000 copies.

Monument to Schutzenberger.—The pupils and colleagues of the late Prof. Schutzenberger, of Strasburg, have erected a monument and bust to his memory. The bust was presented on July 6th, in an Address by Prof. Hergott, of Nancy.

"St. Jacob's Oil."—"St. Jacob's Oil" appears to be a feeble and badly made aconite liniment, and it consists mainly of water, ether, alcohol, turpentine, and a small proportion of aconite, with red coloring matter. Its whole function is to make money for the enterprising merchants who own it, and in this it is by no means a delusion or a snare.—*Squibb's Ephemeris of Materia Medica*, July, 1882.

A Curious Phenomenon.—The French journals, under this title, describe a flageolet player who charmed all his hearers by his musical performances at the recent fair held at Neuilly, an environ of Paris. He had formerly suffered from an attack of diphtheria. Tracheotomy was performed, and the silver tube which was introduced at the time of the operation, and kept stationary by means of a circular pad, now serves the musician of Neuilly as a natural aperture through which he breathes, and so successfully that his flageolet playing was enthusiastically applauded by all present.—*British Medical Journal*, July 22, 1882.

MATRIMONY IN JAPAN.—The Japanese Government has lately drafted new regulations for marriages. According to these, no man in the empire will henceforth be permitted to marry before arriving at the age of twenty. Women, however, are to be privileged to marry at eighteen.—*Med. Times and Gaz.*, July 29, 1882.

THREE HUNDREDTH ANNIVERSARY OF THE UNIVERSITY OF WÜRZBURG.—The University of Würzburg celebrated its three hundredth anniversary by a festival held from August 1st to 4th. Among the celebrities who received honorary degrees were Prof. Huxley and Sir James Paget. In his letter to the *Lancet*, Dr. Russell Reynolds, who represented the University of London, remarks on the stately decorum with which the whole of this proceeding was gone through. There was no applause either by voice or hand or foot; and there was profound, even solemn, attention directed to every word that was uttered. Even when Virchow and many other distinguished speakers left the rostrum there was no applause, but there was a slight vocal cheer when Canon Stubbs, of Oxford, finished his well-phrased speech, and when the representative from Amsterdam concluded his. Still further, it was very interesting to observe the entire absence of anything that elicited either a laugh or even a smile; there was throughout a pleasurable, not grim, sense of seriousness in the whole proceeding, such, as it seems to me, befits a great university act; and this was the more striking when contrasted with the overflowing hilarity at private entertainments, and in all the social gatherings of friends. At the festal dinner, Prince Theodor Carl (the cousin of the King), proposed the health of his Majesty. This was received with appropriate honors, the Prince alluding to his own personal relationship to the medical profession, he having passed through a course of medical instruction, and to the present time occasionally seeing patients in consultation.

Then followed a long pause between fish and soup, during which the talk of the guests and the tones of the band rendered it very difficult to do more than catch a few words from the nearest neighbors. Then, just as some of the visitors had swallowed a few mouthfuls of fish, silence was again called, the Rector rose, the waiters stopped, the guests stood up wiping their mouths, and the health of Kaiser Wilhelm was given and received with all honors, while the band played the familiar air of "God save the King."

Toast after toast followed, and pause after pause ensued, until seven o'clock was reached, when the guests departed, many to see their friends, many to the theatres.

In the evening there was a great gathering of the students and their friends, and of all who had come to the festival, in the great Ludwigshalle. If the official performances were singularly silent, this cannot be said of the "Banketfest der Studentschaft," the hilarious mirth of which was audible far beyond the limits of the hall. But good humor prevailed throughout, and the festivities were not prolonged until an unduly late hour.

Dr. Reynolds was sorrowful with regard to the painful spectacle of the gashed and disfigured cheeks, brows, and noses of dozens of students who were going about Würzburg and Heidelberg. Many had scars, of three to five inches long, on either cheek, some had slit noses, and were adorned with plaster as their only "decoration;" while some grown-up men were to be seen, who must have left their colleges for ten or fifteen years, still bearing these ghastly signs of early folly.

The man who has received his wounds in honest fight for his country or his home may be proud of what he has done, but he is not vain of his wounds. But these young men, of seventeen to twenty years of age, stamp about the street, or, curiously enough, ride in carriages behind a pair of horses, with their disfigured, and often injured heads, tossed high in the air, as if they thought it a fine thing to make day as well as "night hideous" in remembrance of something which has not been an honorable quarrel, but a form of strife for which few can entertain any feeling of respect.

DEATH OF DR. PIDOUX.—DR. PIDOUX died on the 4th inst., at his residence in Paris, from diabetic gangrene. He was more than an octogenarian, took his degree in 1835, and has been a member of the Academy of Medicine since 1864. Dr. Pidoux has written a great deal; but his principal work is his "*Traité de Thérapeutique et de Matière Médicale*," the first edition of which was published in 1839, in conjunction with the late Dr. Trousseau. He was for a long time principal physician at the Eaux-Bonnes, and was a great authority on matters connected with the therapeutic action of sulphurous waters. He was also Officer of the Legion of Honor.—*Lancet*, August 12, 1882.

DEATH OF DR. MCEWEN.—We regret to learn the death of DR. MCEWEN, of Chester, England, who became personally known to many American physicians during his visit to this country last summer.

DEATH OF PROF. HILDEBRANDT.—Our German exchanges announce the sudden death from apoplexy of PROF. HILDEBRANDT, the eminent teacher of gynecology in Königsberg.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending August 19, 1882, indicate that dysentery and typhoid fever have increased, and that bronchitis and influenza have decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending August 19, and since, at 14 places, scarlet fever at 9 places, measles at 4 places, and small-pox at 8 places, as follows: at Montrose, Genesee County, August 15; in Danbury Township, Ionia County, August 16; at Grand Rapids (1 new case), August 19; at Marquette (1 case, convalescent), August 20; at Portland (1 new case), August 21; in Walker Township, Kent County, and Orange and Sebewa, Ionia County, August 21.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 22 TO AUGUST 28, 1882.

BILL, J. H., *Major and Surgeon.*—Granted leave of absence to Dec. 1, 1882.—*S. O. 196, A. G. O., August 24, 1882.*

ALDEN, CHAS. H., *Major and Surgeon.*—Granted leave of absence for three months.—*S. O. 196, c. s., A. G. O.*

MUNN, C. E., *Captain and Assistant Surgeon.*—The leave of absence granted him in S. O. 147, July 28, 1882, Department of the Missouri, is extended two months.—*S. O. 196, c. s., A. G. O.*

OWEN, JR., WM. O., *First Lieutenant and Assistant Surgeon.*—Assigned to temporary duty at Vancouver Barracks, Wyoming Territory.—*S. O. 114, Department of the Columbia, August 11, 1882.*

MACAULEY, C. N. B., *First Lieutenant and Assistant Surgeon.*—Assigned to temporary duty at Fort Columbus, New York.—*S. O. 147, Department of the East, August 25, 1882.*

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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ORIGINAL LECTURES.

ACUTE CATARRH OF THE MIDDLE EAR.

A Lecture.

BY OREN D. POMEROY, M.D.,

SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL, N. Y.

LECTURE II.

GENTLEMEN: At our last lecture we finished the consideration of the causes of acute catarrhal inflammation of the middle ear.

Prognosis.—As a rule patients make a good recovery. As has been previously hinted at, there is little tendency to destruction of tissue. If the membrana tympani ruptures, there is usually no loss of substance: only a fissure, which rapidly closes. I have seen such fissures heal in one or two days, although as many weeks may be occupied in repair. The favorable prognosis often turns on the short duration of the disease; for, if it is continued a certain time, changes of a proliferous nature are likely to occur. If the cavity has been completely filled with secretion and there has been great pressure, not relieved by rupture of the membrana tympani or evacuation from the Eustachian tube, the membranes of the round or oval windows may rupture, and labyrinthine complications result. The mastoid cells may be filled with the tympanal secretion, and take on true mastoid cell disease, or the inflammation may go direct to the cells by way of the antrum. Mastoid periostitis is not as likely to occur. The thing to be greatly feared in this disease is the obstinate catarrh of the pharynx, which so frequently accompanies the affection. Especially is this so in cases having struma or tuberculosis, where it sometimes seems impossible to overcome the difficulty. The same is true of many weakly, or at least sensitive, people, whose mucous membranes are constantly irritated by the harshness of the air, in many parts of this country, and the only means of relief seems to be a selection of an atmosphere congenial to the patient. I have seen a patient with pain in the ear, tinnitus, etc., changed to a more congenial atmosphere, when in a single day all the symptoms would disappear.

I infer that while a patient has a catarrh in the neighborhood of the Eustachian tubes, he is always liable to ear complications. One great danger is, that in the frequent relapses, which do not present very noticeable symptoms, the attention of the patient is not sufficiently drawn towards them, and treatment is neglected at a period when great deafness may result. I once had a catarrh patient go into the country for two weeks in midwinter, when he had a slight relapse of his symptoms, which were not treated until his return. The hearing had been fifteen inches for the watch, and it went down to three or four inches, from which I could never raise it.

In consequence of the proliferating changes in the Eustachian tube the latter is less under the control of the tubal muscles, and the patient may complain of crackling in the ears, due to the fact that the tube is frequently forced. Again, there is less of that opening and closing of the tube, which in a normal state maintains exactly the proper amount of air in the tympanum. If the tube be permanently narrowed, on the recurrence of a subsequent catarrh it is more readily closed than it would have been, had it been of normal calibre. This symptom may exhibit itself on very slight changes in the weather. In children, who have an ample Eustachian tube, it is less likely to occur, and may even be a source of safety where there are collections in the ear, which may have no other means of outlet, and which is often ample, thereby possibly preventing grave complications from the effects of confined matter in the tympanum. The altered and often sclerosed condition of the tympanal lining, I have often thought, acted as an exciting cause to future attacks, somewhat as the cicatricial changes in granular conjunctiva predispose to relapses.

The hearing ought to be perfectly restored. If the disease has continued long enough to thicken the tympanal lining, there will be some diminution in the sharpness of the hearing. A more important state is the collapsed membrana tympani. If the latter has remained in this condition for a few weeks only, it may never return to a normal position. It seems as though the membrana tympani, by its collapsed state, had become stretched, so as to increase the superficial area, when a sunken or cup-shaped condition was the more natural. I have seen patients with an abnormally patulous tube and sunken membrana tympani, who could restore the membrane by inflation, with improvement to the hearing, momentarily, but on the first act of swallowing were thrown back to the old condition, the membrane apparently remaining in proper position only when actually pushed outward by the intra-tympanal air-pressure.

From the fact that patients subject to catarrhal otitis often have an ancestry with the same tendency, it points at heredity. I am sure that the catarrhal and the rheumatic diatheses often seem to be a matter of heredity, and these affections are quite sufficient to cause ear trouble. Tinnitus aurium usually disappears, but it is not certain to do so, the catarrh setting in motion a tinnitus which may continue a part or the whole of the time during the remainder of the patient's life.

Treatment.—Although the *hyperæmia* is not as intense as in the suppurative variety, it is still quite decided, in some cases, and results in much pain and throbbing, and a sense of fulness in the ears. From one to three leeches may be applied to the orifice of the meatus, preferably to the posterior face of the tragus. The objection to applying them to the concha is, that they sometimes cause abscesses and erysipelas. There is no question, from my own experience, and from that of many others, that in this location depletion accomplishes much more than when applied elsewhere. After the leech has fallen off, encourage bleeding for one or two hours by bathing with warm water. In properly selected cases, the relief to pain and the feeling of fulness is most extraordinary. In other cases, the pain is aggravated by the leech, a dull, draggy pain being substituted for the former kind of pain. This being the case, I at once give large doses of morphia either hypodermically or otherwise.

It is worthy of remark that where the pain depends on a distended tympanum from inflammatory products, the leech will not relieve. In milder cases warm or hot applications to the ear are very serviceable. The most elegant method is to place warm or hot water into a rubber bag and lay it on the ear. The temperature should be regulated so as to give the patient the greatest relief. Very warm water will sometimes aggravate, so will too cool water. Latterly, it has been the prac-

tice of some to use cold or iced water. I can imagine it to do good in some cases of very excessive inflammation, of the sthenic variety, but I am, on the whole, timid about recommending cold to the ear. If it relieves the pain and throbbing and there is not directly afterwards a violent accession of inflammation, it is likely to be successful. We may be superstitious about the action of cold on the ear. Common salt heated and placed in a bag is a good application to the ear, or any dry agent susceptible of retaining heat is serviceable. A bottle of hot water wrapped in a napkin, with the ear laid against it, is an inexpensive and easily applied method.

Moist applications, from their macerating tendency, should be objected to, unless used for only a limited period. Even a hot flaxseed poultice may be applied for a brief period. The old-fashioned mode of applying the core of a roasted onion by its conical extremity to the meatus, may properly be recommended. A better plan for moist applications, is the direct use of warm water to the meatus; fill the latter with warm water, turn the head to the opposite side and let it remain for half an hour. A better plan still is to allow warm water to run into the ear from Clark's aural douche. This may be continued twenty or thirty minutes at a time, desisting when it relieves, or no longer feels pleasant to the patient. This method is very highly thought of by many surgeons of the best standing. I, on the whole, prefer the method of dry warmth. If the ear is excessively soaked with moist applications, it becomes at last very painful. Vapor of water gently blown into the ear often affords relief.

Sometimes chloroform vapor does well. Dr. Theobald, of Baltimore, instils a four grain solution of atropia into the meatus, even in children, to relieve pain. Any dilatation of the pupil will give warning if poisonous symptoms are likely to result. Magendie's solution of morphia may be used in the same manner. In young children a small pinch of black pepper wrapped in cotton will often relieve pain. It will be well for an adult to apply it to his own ear, and, if it burns excessively, diminish the amount of pepper or wrap it more deeply in the cotton,

Where there is a *collection* in the tympanum, the indication is to evacuate it. I do not always wait until the membrane bulges before I puncture. There are other signs of collection in the tympanum, besides this, which justify puncture and which have been already referred to. The operation is not specially painful; nay, it may be done without pain at all, in some instances. An instrument that the ophthalmic surgeon calls a broad needle with an extra long shank may be selected. Use a speculum which is large enough, on trial, for the needle to operate in, then with the forehead mirror carefully illuminate. Pass the instrument, held very lightly in the fingers, down close to the membrana tympani, for there is sometimes danger of pricking the canal. The puncture may be made at the protrusion, but if there is none, then select the posterior superior portion of the membrana tympani, for there will be the greatest depth to the tympanum. In children, owing to the excessive obliquity of the membrana tympani, the puncture may be directed upward, so as not to allow the point of the instrument to glance off from the membrane. While the instrument is in the act of puncturing, the tactile sensibility should be appealed to, and the surgeon should feel when his needle has punctured the membrane. In any event it is best to touch the inner wall of the tympanum—touch bottom, so to speak. Do not place the patient against a solid substance, lest he move his head towards the operator, and do himself harm. I do not usually use ether in this operation, but with many the anæsthetic is the favorite method. I never operate as well with the patient in a prone position: one seems to be out of his reckoning—the relations are not natural. I believe a quick, delicate, and gentle thrust is the best method.

If the operation takes on the form of a somewhat lengthy incision, then a knife like Gruber's, with a handle affixed at an angle, is the best plan, for every step of the operation may then carefully be observed. It is proper to state, however, that an instrument of this kind is much more difficult to operate with than the straight one. If after the puncture, no fluid is evacuated, then perform Politzer's inflation, and the sero-mucus may be seen to flow out. If the head is turned towards the affected ear, then the whole of the tympanum may be emptied. The inflation should be repeated until the perforation whistle is elicited. The paracentesis may be repeated as often as the tympanum refills, or by a strong inflation the puncture may be reopened, or, if this does not succeed, pass in a No. 1 Bowman probe. This operation, not only relieves pain in a most wonderful manner, but has an equally astonishing effect on the hearing. I remember a case where I suspected an accumulation in the tympanum, with a collapsed membrana tympani, and I punctured and evacuated not more than two drops of serum, with a very great improvement to the hearing.

The profession are indebted to Prof. Schwartze, of Halle, for this operation of paracentesis, which has contributed so much to our surgical resources.

Another condition of great importance and requiring attention is the *collapsed membrana tympani*, consequent on the closure of the Eustachian tube. It has already been seen that this is sufficient to cause considerable pain to the patient and often needs prompt attention. At the outset, I am inclined not to inflate if there is considerable hyperæmia, as it sometimes adds greatly to the patient's suffering; but after a day or two it certainly would be proper to make the attempt, but let it be done gently. At first it may occasion sharp pain, but usually it gives great relief. Do it by Politzer's method rather than by the catheter, as the latter may irritate or lacerate the inflamed throat and do mischief. The rule, then, is inflate very gently at first, and if it acts well continue it, and if there is too much pain, desist. The inflation should be done sufficiently to elevate the hearing to the highest attainable point. If this point is passed, and the hearing diminished, and tinnitus and pain result, then direct the patient to hold his nose and swallow several times; this will empty the tympanum of excess of air, and again restore the hearing, provided the tube is not too swollen to open upon muscular contraction. The latter not being the case, air will be confined in the tympanum, and may for a while aggravate the symptoms.

This is one of the objectionable features of inflation. It is a good rule to do nothing to the patient which may occasion any throbbing or pain in the ear. Manipulations which are not altogether gentle, or even the mildest syringing may do harm by adding to the existing hyperæmia. Even the leeching must be done by a careful hand, for rough manipulations have before now caused a return of the pain, which the leech had relieved.

The inflation for the restoration of the collapsed drum-head is only a temporary measure, and the *tubal catarrh*, which is the cause of the trouble, should be treated. Sometimes a case may be so mild, and show no symptoms of disease except in the Eustachian tube, that the diagnosis of tubal catarrh may very properly be made. This condition may be met in the following manner: simple salt and water warmed, and of the strength of a drachm to the pint, may in mild cases suffice. Throw it behind the velum by means of a spray-producer or the posterior nasal syringe. I prefer the one devised by myself, which has a tip separated from the

syringe by a rubber tube. I use my own hard-rubber spray instrument; any other may be used; the glass instruments are the best, but they often break. Do not throw up more than half an ounce or an ounce of the salt and water, and do it very gently, instructing the patient to remove it at once by expectoration. The atropia-dropper may be used for this purpose, the fluid being thrown into the anterior nares; but in all these applications do not allow the patient to be frightened or agitated, for he may cough, sneeze, or swallow, so as to allow the fluid to enter the tympanum.

Some years since, in Vienna, I saw Dr. Adam Politzer using for this purpose a little earthenware vessel having a nozzle which fitted the nostril, similar to our sick-feeder, which he used by pouring the fluid into the throat. When this medication is insufficient, chlorate of potash in saturated solution may be used, or carbolic acid, one drachm to the pint of water. It may be necessary to give the patient general treatment for naso-pharyngeal catarrh.

Where more energetic measures are needed, I employ the nitrate of silver. It may be used with the posterior nasal syringe or spray instrument, the Eustachian catheter, or my own faucial catheter. The strength may be from a few grains to the ounce, to a one-hundred grain solution. When a drop or two is used by either of the catheters, or with the spray instrument, a much stronger solution will be borne. In using the posterior nasal syringe it is a good plan to draw up five or ten drops of a ten or twenty-grain solution, and force it in strongly enough to cause a coarse spray to be produced. If much pain results, throw in two or three drachms of salt water, which frequently, but not always, gives surprising relief. If the solution has been too strong, the tube may swell, and for two or three days become somewhat impervious. If a prolonged soreness is left in the throat, the remedy has been too strong. There ought to be a feeling of relief from the application after a few minutes or an hour or two. Tincture of iodine may sometimes be used, but only one to three or four drops should be thrown up at a time. It may be diluted with alcohol if necessary; it is sometimes painful. Chloride of zinc acts somewhat like nitrate of silver, but it is occasionally a harsh remedy. Many other astringents may be used, being careful to reject any that act badly. It is not possible to determine beforehand which remedy will be the most beneficial. Often sore and painful tracts of redness, with pain on deglutition, may be observed. The best plan is to touch these with a twenty to forty-grain solution of nitrate of silver, using cotton on a holder for the purpose. Although it is a harsh remedy, I know of nothing which will so soon abolish the pain and inflammation.

Often at the outset of an acute catarrh with pain in one side of the throat which shows a tendency to travel up the Eustachian tube to the ear, the whole process may be arrested at once. A patient was treated by mild remedies without effect. On returning home after one of these applications, the pain was aggravated; it could be followed up the Eustachian tube to the tympanum; the latter began to throb painfully, and in desperation I poured a freshly made forty-grain solution of nitrate of silver into a hard-rubber spray instrument, and threw up a decided spray for two or three seconds behind the velum, pointing it towards the Eustachian tube. It caused considerable pain for fifteen or twenty minutes, but the symptoms wholly disappeared, and no further treatment was necessary. A somewhat threatening attack was evidently wholly aborted.

I am aware that nitrate of silver often acts injuriously, exciting severe pain, and causing much soreness of the parts, which may remain for days or weeks afterwards. The question is to select the cases in which it is likely to act favorably. The above indication of *pain and localized soreness* I believe to be favorable to the remedial action of nitrate of silver. I have in some instances, applied a strong solution of the arg. nit. to a painful and hot locality in the upper part of the pharynx, the result of inflammation, where it produced no pain whatever, but actually felt cool and afforded the most grateful relief. The principal trouble seems to be that the patient does not in some cases appear to react successfully from the application. Sometimes steam injected against the mouth of the tube, and often into the tympanum, acts well in reducing the engorgement of the Eustachian tube. The hard-rubber catheter should be used for this purpose, as the metallic instrument becomes too much heated; it requires to be fixed in position by the catheter holder; I believe my own instrument is a sufficiently good one for the purpose. Do not prolong the sitting beyond four or five minutes, giving a few puffs, and then waiting a half minute, and then repeat. The first effect will be to congest the lining of the tube, but subsequently the hyperæmia will be diminished. I would not make applications to the throat oftener than once in two days, unless it be some remedy of the milder variety, like carbolic acid, a drachm to the pint; this may be used, perhaps a little diluted, in the upper pharynx with a Davidson spray instrument by the patient himself, two or three times a day, but avoid any unpleasant irritation of the part.

Prophylaxis.—Inasmuch as this disease depends largely upon the habits of the patient, and climatic influences, much may be done to prevent recurring attacks. Everything that tends to excite a "cold" should be scrupulously avoided. It takes years of experience to live wisely in this respect; it is only those who become somewhat venerable in years, who may be seen carrying an umbrella almost habitually, with an overcoat on the arm or actually wearing it, and with properly shod feet, who regulate the temperature of the body as carefully as a chemist does a mixture which must be kept at a given temperature to ensure the success of an experiment. Patients subject to aural catarrh become surprisingly sensitive to any lowering of the temperature. I have known patients to observe the direction of a draft, by a pain, or an unpleasant feeling in the ear, when no other signs of its presence existed. They seem to be as sensitive to atmospheric changes as an habitually rheumatic patient, and it is scarcely possible to make the statement stronger. Riding in the wind is often extremely pernicious, and the patient should have the ears protected by cotton-wool in the meati or some other mode of protection. Wet or damp feet or damp clothing must be avoided, or on returning from a ride or walk, everything damp should be removed and dry clothes substituted. The action of peculiar atmospheres has already been hinted at.

I believe *nothing* exerts so strong an influence on the well-being of a catarrhal patient as congenial air. It would seem almost as important as in the case of an asthmatic patient. If one remains in an atmosphere which constantly congests the lining of his pharynx and Eustachian tubes, it is well-nigh impossible for him to do well, but he is likely to go on adding to his deafness by successive attacks, until great hardness of hearing may result. Another important indication is to cultivate as vigorous a state of the general health as is possible, thus enabling the patient to resist the ill effects of our climate.

I do not believe in avoiding the out-door air to prevent taking cold. I have noticed that our stage-drivers rarely suffer from catarrhal affections, notwithstanding they are on their boxes driving sixteen or eighteen hours a day, and exposed to all weathers. Their vigorous physiques resist the catarrhal influences, and this

state has been brought about by constantly being in the open air. Careful regulation of all the habits, is a more important matter than is usually supposed.

Tuberculous or strumous patients may require, in addition to a nourishing diet, stimulants and cod-liver oil, the latter in some form of emulsion. Excessive fatigue or exhaustion should be avoided, as diminishing the power of the constitution to resist the effects of cold. I know a gentleman who will never admit that he has overworked or become exhausted, but he suffers frequently from "a cold" which seems always to attack him in times of depression. Even in mid-summer the inclement atmosphere follows us. I have observed those who go into the country suffer especially. The mid-days are excessively warm, but the evenings often are cold, the temperature after sundown going down very suddenly, and blankets may be in requisition.

It is advisable to direct the patient to always breathe through the nostrils when possible. One of the best plans for keeping the nostrils free is to constantly breathe through them, besides the favorable influence of a current of air passing across the faucial orifices of the Eustachian tubes. This matter will be developed more fully under the head of naso-pharyngeal catarrh, etc. If the mouth only is used in breathing, air is insufficiently warmed, and it irritates the pharynx. Sometimes I advise a respirator to be worn over the mouth, so that the air may be rendered less irritating to the throat. From what has been said, I hope you are impressed with the idea that it is almost a fine art to protect the system properly from our variable and inclement atmosphere.

Constitutional treatment has already been hinted at in the previous topic. To those who accuse us of treating disease locally and depending on it, I would say that I am most heartily in favor of doing anything that benefits the patient. Some of our therapeutic friends will tell us that a large dose of quinia acts favorably in a commencing sore throat, may break it up in short. Tr. aconit. rad. is also given for the same purpose. Others take pleasure in breaking up threatening symptoms by a large dose of Spts. vin. gal., or something of the kind. In the outset of an attack it may be broken up by somewhat prolonged and excessive perspiration in bed, with or without a cathartic dose. A warm foot-bath is a very harmless and effective mode of inducing perspiration, or bottles of hot water may be placed at the feet and sides of the patient to accomplish the same purpose. If there be no undue obstruction in the bowels, a large dose of morphia may suddenly avert the disease. A full dose of Tr. of guaiac may sometimes be very serviceable.

ORIGINAL ARTICLES.

SOME OPEN QUESTIONS IN MEDICINE,

WITH A RUNNING COMMENTARY ON THE NATURE AND TREATMENT OF DIPHTHERIA.

BY RICHARD McSHERRY, M.D.,

PROFESSOR OF PRINCIPLES AND PRACTICE OF MEDICINE IN THE UNIVERSITY OF MARYLAND.

Is it not strange that nearly every apparently simple question in medicine may become a *crux* to the medical investigator, so that unless he has that docility of mind which will accept the *ipse dixit* of a master, whom he follows and is willing to swear by (*in verba magistri jurare*), he is fain to content himself with the aphorism that "there is a great deal to be said on both sides of the question?" What is diphtheria? Is diphtheria croup, and is croup diphtheria? Call the ayes and nays, and the vote seems to be about equal, and it rests with the caller himself to give for his own satisfaction the casting vote.

Is the malignant disease which we commonly call cancer, a constitutional disease with local developments, or a local disease primarily, affecting the whole system secondarily? Again, the votes by the sound are about equal.

Is bloodletting a proper remedy in acute inflammation? Aye and nay come down upon us from remote ages. In the face of an appalling opposition I believe bloodletting to be the most potent, if not the safest, of antiphlogistics. Like all potent remedies, making prompt and decided impression, it is, when in fashion, liable to great abuse. Dr. Sangrado is a good caricature of the abuse of the agent when "blood-him," was the fashion, but, nevertheless, *abusus non tollit usum*, and bloodletting is a remedy now too much neglected. I could give "modern instances" from my own practice of its usefulness if there is any rational means of judging of cause and effect in medicine. I was pleased to find some time ago in conversation with my distinguished friend, Prof. S. D. Gross, that he has ever held to the same views and practice.

While touching upon this subject, I may mention an interesting reminiscence in regard to bloodletting in pneumonia. I have always taught in my lectures that some cases, in conditions at the time expressed, *demand* bloodletting, local or general.

During the late unhappy war, the views of Todd and Hughes Bennett were exerting a mighty influence, and bloodletting was quite discredited, except that effected by the sword and other implements of war.

I abhorred this method, while measurably respecting the surgical. It happened that among our pupils were two very intelligent medical cadets then serving in army general hospitals near the city. When examining these young men for degrees, I took occasion to examine on pneumonia, and questioned both in regard to what they had read and what they had seen. We will call them Mr. M. and Mr. K. They were both attached to very large hospitals, and had seen great varieties of injuries and diseases. Mr. M. had seen a great many cases of pneumonia. What was the treatment? *Ans.* Generally stimulating.—What was the result? *Ans.* The mortality was large.—How large, fifty *per cent.*, more or less, of the patients? *Ans.* Much more.—My expression must have been one of surprise, for the candidate immediately added: "Professor, a great many of the cases come into the hospital far advanced in the disease, and some actually moribund." I then said that stimulation was probably the best your surgeons could do for them, but had any of these men any marks about them to show general or local abstraction of blood? *Ans.* They had not.

When Mr. K. came up, I took him over the same ground. He had seen a great many cases of pneumonia in hospital about one half of which proved fatal. The treatment was stimulating, *à la* Todd. Were any bled before or after coming under your observation? *Ans.* They were not: I never saw a man bled in my life.

Mr. K. (now Dr. J. H. Kidder, U. S. N.) after passing a brilliant examination before the navy board, called to pay me a friendly visit. I referred to his hospital experience, and asked how the surgeons explained the large mortality in pneumonia? His answer was that they supposed the lost cases had not been sufficiently stimulated. And I remember, said I, my young friend, when it would have been said the men died because not sufficiently depleted in the early stages.

I mentioned these same facts some time after their occurrence to a practitioner in this city who had been employed as a civil surgeon in one of the hospitals in question. The gentleman said that he remembered distinctly two cases of recovery, both of which had been freely cupped!

Are not such facts worthy of note, *per contra*, as offsets to the statements of Bennett and Todd, that when pneumonia proved fatal, it was rather due to the treatment (by bloodletting) than to the disease?

Drs. Bennett and Todd were both very able men, as able as any in our profession, but they were as liable to mistakes as the rest of us. *Requiescat in pace.*

To come back to diphtheria, with its vexed questions, its identity with croup as Morell Mackenzie *et al.* contend, and as Niemeyer *et al.* deny. Thus Mackenzie says:

"The ordinary inflammation of mucous membranes is attended with engorgement of the tissues and the formation of pus on the surface; under the influence, however, of a certain poisonous contagium, the inflammation, instead of being attended with the formation of pus, leads to the exudation of layers of lymph which become adherent to the free surface of the mucous membrane. This disease is called diphtheria, and whether the lymph is deposited on the mucous membrane of the pharynx, or larynx, or trachea, or bronchial tubes, or any other mucous membrane, or on a wounded surface, the disease is still 'diphtheria.' To suppose that there are two kinds of pellicular inflammation of the larynx, one of which is the cause of the diphtheritic poison, and the other in which the cause is some other undiscovered influence, is totally opposed to all probabilities."—*Diphtheria, its Nature and Treatment*, by Morell Mackenzie, M.D.

Among the points of distinction usually made by those who deny the identity of croup and diphtheria, two very prominent ones are thus met by this author:

1. Albuminuria is assumed to be distinctive of diphtheria. But, says Mackenzie, albuminuria is often present in croup.

2. The cervical glands are affected in diphtheria, but not, or rarely, in croup. The reply to this is: "the cervical glands are not often affected in croup, because the mucous membrane of the larynx has no communication with the superficial cervical glands; on the other hand, as stated above, there is an elaborate connection between the pharynx and the lymphatic glands."

Developments of disease often deviate from the course laid down for them in the text-books. I have just ceased attendance upon a most alarming case of diphtheria, or diphtheritic croup, in consultation with Drs. Jenkins and O'Donovan, in which there was abundant development of diphtheritic membrane upon tonsils, pharynx, and posterior part of uvula, giving a border to the anterior edges, in which we could detect no enlargement of any of the cervical glands. I will recur to this case when speaking of treatment.

Niemeyer expresses himself thus:

"The diphtheritic pseudo-membranes, or sloughs, result from superficial gangrene of the mucous membrane, which again depends on compression of its nutrient vessels by an interstitial fibrinous exudation, or from swelling of the tissue elements, which are filled with a cloudy substance. If the larynx and trachea participate in the disease, the croupous, not the diphtheritic, form of inflammation of the mucous membrane occurs; that is, the surface of the mucous membrane is covered with a more or less tough and consistent false membrane, which may readily be removed, and leaves no loss of substance after its removal. This circumstance has induced some physicians to identify primary genuine croup, which is due to catching cold, etc., with croupous laryngitis caused by infection with diphtheritic contagion. I consider this a false view. The division of diseases, according to the pathologico-anatomical changes they induce, is only a make-shift. In all cases where, as in genuine and diphtheritic croup, we find that the anatomically similar diseases of nutrition depend on very different causes, we should consider them as distinct."—Niemeyer's *Practical Medicine.*

I have quoted these two authors as good observers, and as representative men of opposite opinions, who respectively agree and disagree with all the eminent writers on the same subject.

Are such discussions merely about words? Is it not certain that some cases would be considered typical of diphtheria, and others typical of croup? If this last word has any definite meaning, no one would apply it to a deposit about the fauces, with fever and prostration, provided there were no invasion of the larynx, no marked change of sound in voice, cough or respiration. And perhaps no one would call an attack by any other name than croup, if the initial symptoms were strictly laryngeal or tracheal.

How far may contagion or infection be taken as causative agency to distinguish between diphtheria and croup? Is there any difference in this respect? Croup has not usually been considered infectious or contagious; diphtheria is considered to be notably so. "An acute specific disease, both epidemic and contagious, characterized by a special inflammation of the mucous membrane," etc., says Dr. Squire, in his definition of the disease, while he makes no reference to contagion or infection when speaking of croup.—Reynolds' *System of Medicine.*

This ought to settle the question, but we all see cases of diphtheria where little or no care is taken to prevent its spread, without any extension whatever. I have attended a great many cases where mothers and nurses seemed utterly indifferent to risks, notwithstanding these being plainly presented to them; yet I have seen very few instances of obvious contagion. I certainly admit risks, contagion, and infection. In one family of three children, all affected one after another, there had been free kissing and caressing before I was called in. Professor Frick, of the University of Maryland, early distin-

guished, and of brilliant promise, fell a victim to a tracheotomy operation and the use of a blow-pipe passing from his mouth to the trachea of a diphtheritic child in the hospital.

Notwithstanding such positive facts, the negative facts stand out that, in a vast number of instances, an isolated case occurs in a family without any extension whatever, and where little pains are taken, if any, to prevent extension. Withal, however, the physician is very culpable who does not insist upon precautions. They may save life; they can do no harm.

Supposing diphtheria to be assuredly contagious, what is the contagious matter? Is it living or dead, animal or vegetable? Here is another field for discussion, and discussion develops the reasoning faculties of the profession, always becomingly active, for do we not know

> "That none but a clever dialectitian
> Can hope to become a great physician.
> That has been settled long ago."

The contagion is probably carried in the vitiated secretions, and more probably in living germs lodging therein. Does the morbid poison affect the mucous membrane, let us say of the fauces, and thence the blood, or does it enter the blood first, and then make its impression on the mucous membrane secondarily? Are the low organisms found, always, perhaps, upon careful examination, in the false membrane, in the blood, and the various tissues and organs, to be reckoned as cause or result? Are not the same low organisms, always or usually floating about us, like the moats in the sunbeam, and do they produce the obvious diseases, or do they flourish because diseased blood or tissue is only unable to resist them? A poor old drunken pauper was found helpless in a field the other day, who was attacked by turkey-buzzards, and they would have devoured him, because he was not capable of resistance, had not some neighboring good Samaritans rescued him from their clutches. The buzzards did not cause him to be old and cadaverous, but finding him so, they would have picked the flesh from his bones in short order, according to their instinct, if they had not been driven away.

It is certain, or seems to be certain (a poet, by the license of his craft, goes so far as to say,

"The first and last word in life's volume is doubt"),

that low organisms are deeply and essentially involved in the pathology of diphtheria. Positive evidence comes from a great many sources, and outweighs negative evidence.

While writing this paper a very interesting article falls under my notice in the columns of THE MEDICAL NEWS, from the pen of Dr. John M. Keating, entitled "The Presence of Micrococcus in the Blood of Malignant Measles; its Importance in Treatment."

After all, treatment, therapeutics, is the paramount business of the American physician, and perhaps not only in malignant measles, but in a great many other malignant diseases, the most important element in successful treatment is the destruction of those ravenous parasites known by the various names of micrococci, bacteria, etc. I have long been of this opinion, and have acted upon it with considerable success.

Dr. Keating (and Dr. Formad) found in malignant measles that micrococci (sphero-bacteria) were, as it were, devouring the blood, especially the white corpuscles, of the patients. For a time there was very considerable mortality among the children, and the presence of the bacteria led to the question as to Dr. Formad's experience of the means of checking the development of micrococci in his culture solutions. He said that alcohol was the most potent agent. I may refer the reader, for the beneficial change effected, to the original article, where the patients were liberally dosed with whisky.

Let me reproduce some brief passages from Dr. Keating's paper:

> "We may look at present upon the micrococcus as associated with the malignant symptoms of all complications known as 'blood poisoning.' It is found in erysipelas, in puerperal septicæmia, in diphtheria, and in malignant measles. Experience has also taught us that alcohol, the vegetable acids, calomel, or corrosive sublimate, are the drugs *per se* in septicæmia.
>
> "The action of alcohol and calomel is too well authenticated in puerperal septicæmia to doubt their efficacy.
>
> "We know of late how surprising a result will often attend the use of alcohol and *corrosive sublimate* in malignant diphtheria, and also the value of vegetable acids, especially lemon juice and claret, in this dreaded disease."—MEDICAL NEWS, July, 1882.

This all goes to show that if we protect the blood from the ravages of the micrococci, we render something of the same kind of service that the neighbors did to the old man when they rescued him from the buzzards.

Dr. Keating says we know "of late of the value of corrosive sublimate in the cure of diphtheria." I have used this agent habitually for many years, and can add my testimony to the facts recently adduced.

My friend and colleague, Prof. Chew, of the University of Maryland, after speaking of this subject, was kind enough to send me recently a copy of Prof. Pepper's "Address on Medicine," wherein he relates a case, now famous, where, acting upon information given by Dr. G. A. Linn, Dr. Yarrow and himself carried a child safely through a desperate condition of diphtheritic croup, principally by the therapeutic agency of corrosive sublimate. I read this with great interest and satisfaction. It was to me confirmation of my own teaching and practice for years.

It is strange how such an important agent should have dropped out of sight. In the Index of Therapeutics, Stillé and Maisch (1879), no mention is made of mercury under the head of diphtheria; and none in Bartholow's Materia Medica (1878).

In the work of Meigs and Pepper, on Diseases of Children (1870), we find the following passage:

> "Regarding diphtheria as a constitutional affection, depending upon a peculiar alteration of the blood, we must admit that we are in possession of no remedy which in any respect merits the name of a specific in its treatment.
>
> "Among the best internal remedies, however, are the

various preparations of chlorine, iron and bark, which may be given singly, or, preferably, in combination."

Here is no mention of mercury, but in the chapter on the allied (identical?) disease called *croup*, mercury does not pass without mention.

"Since the publication of the last edition of this work, our increased dislike of the administration of mercury to children, in large and frequently-repeated doses, and the constant observations that even its free use does not appear to arrest the course of true croup, have led us to abandon entirely its employment in this disease."

True croup is so intractable to treatment that one scarcely knows in what remedies to trust; but I may observe here, *en passant*, that several of the best practitioners known to me trust more to calomel than to any other one remedial agent.

Perhaps Dr. Pepper may be led to reconsider his expressed opinion, since he finds mercury so important in the cure of diphtheria.

By the way, it may not be amiss to offer here an illustration showing the force of some of Dr. Pepper's arguments in relation to mucous catarrhs of a local character, without any connection with blood poisoning.

Dr. Lamousin reports a case "*Du croup par cause externe*," wherein a healthy child of four years of age had a violent attack of diphtheritic croup from swallowing, *de travers*, a kidney-bean. The disease was so typical that the doctor discredited the story of the bean as told by the parents. But the foreign body really entered the larynx and developed the croup.

"Il ne s'agit pas, en effet, d'accident, simulant plus on moins la laryngite diphtheritique, mais bien de cette maladie elle-même, avec son cortége de symptomes, notamment le plus caracteristique de tous: l'expulsion d'une fausse membrane tubuleuse."

False membrane was thrown off pretty freely for several days, under the use of antimony, in masses and fragments. Some of the membrane was, "très-résistante, tubuleuse dans une partie de son étendue; sur sa face externe se voient de petits tractus rouge vif comme des rudiments de vaisseaux sanguins."

The case was, indeed, altogether characteristic; in a few days, something was heard like a valve or piston working up and down in a pump, and thereafter a half bean was ejected enveloped in bloody mucus. The cure was then immediate. There was at the time no prevalence, indeed, no case, of diphtheria anywhere in the community.—*Annuaire de Médecine, etc.*, 1865.

As to the treatment of diphtheria, I must say, that upon theoretic grounds, confirmed by practical experience, I give the *first place*, ordinarily, to the use of corrosive sublimate. It would, perhaps, not be easy to say why I adopted its use years ago, except from noticing its magical influence over specific sore throats. (How perpetual and enduring the alliance between Hermes and Aphrodite!) Then if it relieves one poison affecting the throat so readily, why not another? At all events, I have used it advantageously and satisfactorily for years.

I believed with Dr. Jodin, of Paris, in the presence and influence of a parasite, a *contagium vivum*, accepting to a certain extent his dicta: 1. That the concretions, the source of all the symptoms, are products of parasitic or vegetable origin; and, 2. That the basis of treatment consists in the application of topical parasiticides, a medication as rational as it is happy in practice.

But this view is not quite broad enough, so I agreed yet more fully with Dr. Laycock, who believed the parasite to be in the blood, as well as in the false membranes, and who says summarily, "that antiseptics and parasiticides appear to be the most efficient remedies in diphtheria. I can speak most favorably of the sesquichloride of iron and hydrochlorate of potassium."

These two agents, indeed, seem to be in universal use, but in addition, I very often make the iron the vehicle for the corrosive sublimate. I give, for example:

℞.—Bichlor. Hydrarg. . . . gr. j.
Tinct. Ferri. Chlor. . . ℥ss–℥j.
Potass. Chlor. . . . . ℥ij.
Aq. . . . . ℥iij—M.
S.—Teaspoonful as directed, in sweetened water.

I find among my prescriptions such a formula as follows:

℞.—Hydrarg. Chlor. Corros. . . gr. j.
Ammon. Chlor.
Potass. Chlor. . . . āā ℥ij.
Aquæ, ... Oj—M.
S.—To be used as spray and gargle, as directed.

The spray is often pressed too hurriedly by the attendants to the annoyance of the patient, to whom it may become very repugnant; a puff of spray and a free inspiration of air, alternated, will usually be well borne.

In a case under the care of Dr. Jenkins recently, to which Dr. O'Donovan and myself were called in consultation, we gave the exact doses as directed by Dr. Pepper (or Dr. Linn), with the happiest effect. When I first saw the child the visible exudation had nearly disappeared from her throat, but the larynx was deeply affected, and the bronchial tubes, with pretty rapid extension to the smallest ramifications; in other words, there was capillary bronchitis. Dr. Jenkins had used iron and chlorate of potassium freely, and had commenced the use of the mercury before my visit. I concurred fully in the measure, recommending the mercurial spray also. Without going into the details of a grave case of diphtheria, I may say that for some days the child appeared to be so near death that any change for the worse must have been fatal. It was a question whether she would go by asphyxia or asthenia. Meantime the mercury was given every two hours, terebinthinate and ammoniated liniment frictions were made to the chest repeatedly, and oelate of mercury (ten per cent.) was rubbed upon the throat. Twice emetics were given of ipecacuanha and alum, which brought up some loose membrane and gave some relief to the distressed respiration. Beef tea and milk toddy were given as nourishment. She was not neglected for one moment by her family and nurses during the critical time, and at length we saw her convalescence fairly established.

This was one of three very ill cases I have recently attended and treated with corrosive sublimate, all

now well, or well advanced in convalescence; for one young lady, after being free from all the primary symptoms, had obscurities of vision, paresis of the limbs, formication, difficulty in swallowing, and so much tumidity about the jaws and face, after I had ceased regular attendance, and made but occasional calls, that I apprehended a secondary nephritis. One or two specimens of urine, taken at intervals of several days, gave about the same results: Sp. gr. 1036, acid reaction; no albumen to heat and nitric acid, but some fermentation when the acid was added. White earthy deposit with Moore's test, and crystals of nitrate of urea when exposed with nitric acid.

It is about three months since the beginning of her attack, anæmia and partial paresis are still among the sequelæ, but her health steadily and slowly improves.

I mention these cases, if not very remarkable in themselves, still as confirmatory of the value of the mercurial treatment.

Dr. Pepper's recorded case must exert a widespread influence.

Perhaps all physicians habitually use alcohol in some form in serious cases of diphtheria, but, taking a point from Dr. Formad's expressed experience, I shall use it hereafter not for the single agency of support, but also for its germicide properties. It may be remarked, by the way, that nearly all the remedies highly commended by practical physicians have in a greater or less degree these same properties, upon whatever theory they may be administered.

In conclusion, let me ask how often diphtheria may recur in the same subject? I have seen secondary recurrences, but scarcely two fully developed attacks in any one individual. Some months ago I was attending a boy with an attack of it, when a little girl, a neighbor, stopped me as I left the house to inquire for her playmate, and she took occasion to inform me that she had suffered with attacks of diphtheria seventeen times. I asked what physician had carried her so safely through, when she informed me that it was Dr. ——, of the infinitesimal school. I did not wait to get any details of diagnosis, pathology or treatment, and therefore can give no further information than in regard to the surprising number of attacks and recoveries.

BALTIMORE, August 2, 1882.

A CASE OF LONG-STANDING NEGLECTED UMBILICAL HERNIA,

RESULTING IN PERFORATION OF THE ABDOMINAL WALLS AND DEATH.

BY W. B. BARHAM, M.D.,
OF NEWSOM'S, VIRGINIA.

THE following case will, I think, be of interest to the medical profession. It terminated fatally in a few hours, and its only interest hinges upon its rarity.

On the 1st of August, 1881, I received a note from Dr. E. C. Barrett, asking me to see, with him, Mrs. E. J., aged 43, the mother of several children, and weighing about 250 pounds. He described her as being in a very curious and critical condition, and upon reaching her residence I found her suffering extreme agony, and almost in *articulo mortis*. After an examination of the case, we consulted with her husband and friends, in order to arrive at its correct history, and found that for the past four years she had, to use their language, been carrying an "immense bag," reaching from her abdomen to the knees, and that on the morning of the day on which we were called to see her, as she was ascending a flight of steps, perforation of this bag had taken place, and that her intestines had protruded. When I saw her they had protruded to the extent of about twenty feet, and were lying by her side on the bed, in a mass that would fill a half-bushel measure. After a careful examination, we found the perforation near the umbilicus, which, by the weight of the tumor, had been dragged far below its usual situation. The perforation was not more than three inches in circumference, and it was constricting the mass so tightly that it was in an almost gangrenous condition. After a hurried consultation, we concluded that the only shadow of hope for the patient was to enlarge the opening and to replace the intestines; but so great was her exhaustion, that we were fearful that she would die before the operation could be completed. The rupture occurred early in the morning, and it was two o'clock P. M. before either of us saw the patient, and it was four o'clock before we could begin the operation. After I had given her about a gill of whiskey, and had anæsthetized her, Dr. Barrett enlarged the opening to the extent of about four inches, and then came the "tug of war;" for, notwithstanding our most strenuous efforts, it took us at least an hour and a half to replace the intestines, and this having been at last accomplished, we brought the edges of the wound together, as best we could, with silk thread. After the operation was completed we again administered a gill of whiskey, after which the patient partially revived from the effects of the operation, but died from exhaustion in about two hours.

Remarks.—This case is reported because I believe it to be uncommon. I have consulted all the surgical authorities accessible to me, and find that there are few such cases mentioned. Dr. Agnew, in his "Principles and Practice of Surgery," vol. 1. page 497, mentions the case of an Irish woman, once under his care, in which ulceration and sloughing of the abdominal tissues took place. I am well aware that umbilical hernia, especially in obese women and those who have borne many children (and this was the case with our patient), often occurs; but such a termination of umbilical hernia as here reported I claim to be rare, and for that reason I thought that this case might be of interest to the profession.

Of course, nothing is claimed as to our treatment. We did all we could, but it was one of those cases which, unfortunately, too often occur, in which our best efforts mock us. We had but little hope for the patient from the first, but a desire to do something for her, and to give her the benefit of the chance of recovery, slight though it was, prompted

us to perform the operation. The perforation of the abdominal walls took place early in the morning, and it was several hours before either of us could see her. In the mean time exhaustion and gangrene of the intestines had done their fatal work; whereas, could we have seen her at once, the case might have resulted more favorably.

Her husband informed us that the hernia appeared about four years ago, as a lump about the size of his fist, at the umbilicus, and that it gradually increased in size, until the rupture of the abdominal walls took place. In this case it is probable that the parts covering the hernia became attenuated, the peritoneum and fascia disappeared by absorption, and the contents of the tumor came almost directly in contact with the skin, and this condition continued until, upon the exertion of ascending a flight of steps, the abdominal walls ruptured, and protrusion of the intestines took place.

No doubt such a termination might have been prevented, had the patient submitted to surgical treatment when the tumor first appeared, but notwithstanding the urgent appeals of her husband and friends, she persisted in her refusal to submit to such treatment, until neglect resulted in death.

MEDICAL PROGRESS.

Carcinoma of the Colon: Resection: Cure.—M. Nicolaysen reports the case of a woman, aged 49 years, who, for a year, had suffered from constipation alternating with painful, bloody, and mucous stools. A tumor could be detected high up in the colon, which could be forced into the rectum by the expulsive efforts of the patient. The operation was performed in the following manner: after having forced the carcinomatous tumor into the rectum, the patient was chloroformed, the rectum washed out with carbolized water, the bladder emptied, and the tumor drawn outside of the anus. The left index finger was introduced into the intestinal canal 2½ cm. above the limits of the neoplasm and the walls of the colon, which at this level were perfectly healthy, pierced by a row of sutures extending completely around the bowel. The diseased portion was then excised 1 cm. below the sutures, which closed the tubes so well that only a single ligature was required. The edges of the wound were then united by sutures and the bowel released; it immediately retracted. The patient was cured in fifteen days, and no trace of the seat of operation could be detected in the rectum. The excised portion was 6.5 cm. long. The patient was in good health two months and a half after the operation.—*Nordiskt Medicinskt Arkiv*, 1882, No. 8.

Iodoform in Lupus.—Dr. Riehl (*Wiener Med. Wochenschrift*, 1881, xxxi. p. 534) has used this drug as a local application in lupus vulgaris with flattering success. In order to remove the epidermis and thus render the diseased tissues accessible to the action of iodoform, a fifty per cent. solution of caustic potash was applied to the skin after removal of all dirt and grease from the same by means of washing with soap and water. Left in contact with the skin a caustic solution of this strength in from one-half to two minutes caused transparency, swelling, and detachment of the epidermis. This effect produced, the excess of caustic potash was washed off with water, the surface thoroughly dried, and a layer of finely powdered iodoform from one to two millimetres in thickness was applied to the surface which had been denuded of epidermis. This, covered with cotton batting, retained in place by strips of sticking plaster, was left undisturbed for from five to eight days. In no case was there suppuration, and on removal of the dressing the iodoform was found embedded in the depressions due to the disappearance of diseased tissue. Adherent at some points, at others which were in process of cicatrization the iodoform was merely superimposed. The sound skin between the points of pathological infiltration was pale and soft, and the general swelling and rednesss of the parts had in great measure diminished. In severer cases, while there was never suppuration, two or three successive applications of this dressing were required before the pathological infiltration of the tissues disappeared. The application of iodoform to surfaces of skin denuded of epidermis, caused neither pain nor any disagreeable sensations. To do away with the pain necessary to the application of caustic potash, local anæsthesia may be used. The author has employed this dressing in twenty cases of lupus, and always with good result.—*Arch. of Derm.*, July, 1882.

Gonorrhœal Arthritis.—Prof. Peter pointed out a case at his clinic (*Gaz. des Hôp.*, June 17th) in illustration of the fact that in the so-called gonorrhœal rheumatism the joint is not the seat of the affection, but the adjoining white tissues or "tenosity;" and that consequently there is no complication from heart disease, while the prognosis is much more favorable. The gonorrhœal discharge exerts no specific effect in producing it, any genital irritation being competent to do this, acting through some ill-understood mechanism, as in profuse leucorrhœal discharge, or the sudden arrest of the menses. In this case abundant gonorrhœal discharge was present in a woman, and the left ankle-joint seemed to be the seat of an attack of acute rheumatism. This, however, was not the case, and the diagnosis was obtained by the mode of examining the joint. Feeling below the internal malleolus, great pain was produced; but palpation at the external part, or in front, or deeply behind under the tendo Achillis, gave rise to no abnormal sensibility. Returning again to the inner side, and examining methodically, it was found that pain really only existed in the direction of the sheath of the tendons which passed under the malleolus internus—there being therefore only a tenosity, easy to define. It is only very rarely indeed that the joint is implicated.—*Med. Times and Gaz.*, August 19, 1882.

Idiopathic Spasm of the Tongue.—The isolated independent spasm of the tongue belongs to the rarest forms of spasm. Under the name "aphthongic," Fleury described a singular neurosis in the hypoglossal region, in which each attempt at speaking called forth tonic and clonic spasms of the muscles of the tongue, which rendered articulation impossible. Berger, *Neurol. Centralbl.*, No. 3, 1882) has met with two cases, the first being that of a lady aged 28, neither nervous nor hysterical, in whom there appeared, during the last few years, whilst enjoying the best of health, a peculiar tension above the larynx, and a feeling of swelling in the tongue, followed after one or one and a half mintutes, by a rhythmical twitching of the tongue, which was propelled against the row of teeth at the rate of fifty or sixty a minute. During the attacks, which usually lasted from one to two minutes, speech was impossible. Other cephalic disturbances there were none, nor was there any anomaly either of the tongue or of the oral cavity. A course of baths in Landeck, and the use of iron spas, brough about a cure after some time. The second case was that of a man in whom, after his fortieth year (now two and a half years ago), the

tongue was periodically projected from the mouth with great rapidity and force, this happening sometimes several times in the week; at others, several times in the same day. The author assumes for both cases an irritable condition, either cortical or bulbar, of the hypoglossal nerve as the cause, and adds, as similar to the above, two observations which he has made on men aged 44 and 56, in whom there was spasm of the cremaster muscle, lasting two or three minutes, several times a day. Kissingen and Karlsbad waters cured the one case very nearly; in the second, the subcutaneous administration of atropine, and three weeks' galvanization (positive pole on the spinal cord, negative pole to the scrotum) effected a cure.—*London Med. Record*, August 15, 1882.

PITYRIASIS CIRCINATA ET MARGINATA.—EMILE VIDAL (*Ann. de Derm. et de Syph.*, 2 s., vol. iii.) describes a fungous parasite, which he claims to have discovered in this affection, and which he calls *microsporon anomœon* (*microsporon dispar*). Examined with an immersion objective, No. 10, Hartnack, epithelial scales from a patch of pityriasis circinata exhibit spores of a diameter of one micro-millimetre, many even smaller, larger spores being the exception, never exceeding one micro-millimetre in diameter. The principal characters of this fungus are: 1. The diminutive size of the spores, and their great variation in volume. 2. A circular arrangement in the epithelial cell. 3. The scarcity of chains of spores. 4. The absence, or, at least, great rarity of mycelium. The fungus affects the superficial and, particularly, the middle layers of the epidermis. It is to be observed more especially upon the face, beard, and neck. The hair escapes, and its follicle does not become inflamed. The clinical signs of the affection are described, and its differential dignosis with "pityriasis rosea, pityriasis versicolor, erythrasma, and trichophytosis circinata" indicated. Vidal has never seen the affection in persons of more than 40 years of age, and has never known it to spread by contagion. Its cure is easily effected by the use of ordinary antiparasitic remedies.—*Archives of Derm.*, July, 1882.

GASTRIC ULCER.—In the course of some experiments on the production of nephritis by the injection of cantharidin under the skin, AUFRECHT has made the remarkable discovery that ulceration of the stomach may result from these injections. After the subcutaneous injection of cantharidin, suspended in oil to lessen the local irritation, he found in guinea-pigs a large number of circumscribed changes in the mucous membrane of the stomach. These were at first regarded as merely hemorrhages, but on closer examination were found to be spots of loss of substance, the boundary of which projected above the level of the adjacent mucous membrane. These changes were especially conspicuous in the stomach of a rabbit, which died ten days after the injection of 2½ milligrammes of cantharidin. About fifteen small ulcers were found in the stomach, many of them with raised edges, and all filled with blood-clot. There were also six circular spots of a dull gray color, sharply limited, without any extravasation. A microscopical examination showed in the latter the following changes: the epithelium of the glands was paler and less granular than normal; between the glands was a clear amorphous material; the capillaries were distended with blood, whereas, elsewhere, they were empty. A similar change was found in the vicinity of the extravasations, and the glandular epithelium here presented irregularity. The extravasations were of uniform brownish-red blood, in which no intact blood corpuscles could be seen. There was no sharp limitation to the blood effused, such as might have been expected had the hemorrhage resulted from the rupture of one vessel. From these facts he concludes that the extravasation is the second stage in the process, consecutive to inflammation, which appears to be the first alteration. Aufrecht believes that these facts indicate that in man a similar sequence may obtain, and that ulcer of the stomach probably commences as inflammation, and not, as is commonly assumed, by hemorrhage.—*Lancet*, August 19, 1882.

NEW METHOD OF TREATMENT OF VARIOLA.—M. DREYFUS BRISAC has had an opportunity of testing the method of treatment of variola recommended by M. DUCASTEL, and has published his report on his results. The method consists in the administration of a mixture of ether and opium, with the separate use of perchloride of iron, alcohol, and ether, subcutaneously. He finds that it is best to omit the perchloride of iron, except in hemorrhagic cases, and that the ether injections sometimes prove irritating, but not sufficiently so to prevent their use. He believes that while the influence on the general disease is doubtful, this treatment does undoubtedly control the eruption.—*Gazette Hebd.*, Aug. 11, 1882.

SPONTANEOUS FALLING OFF OF THE NAILS IN ATAXIC PATIENTS.—This phenomenon, which is not mentioned by any of the classic authors, is, perhaps, not so rare as is supposed. One case of it is mentioned in M. Arloing's thesis, and M. PITRÉS has reported two cases in the *Progrès Médical*. In these two patients, both of whom had confirmed tabes, the nails of the great toes had come off spontaneously, without any trace of external violence. The loss of the nails was preceded for some weeks by a dull pain and a sensation of irritation in the corresponding toes, without the lightning pains being more acute than usual. There was neither suppuration nor ulceration apparent at the matrix of the nail. The nails were rapidly replaced by new nails of normal formation. It is probable that the disorder is connected with disturbances of nutrition depending upon medullary lesions, analogous to perforating ulcers, spontaneous fractures, and various eruptions. In these two cases, the repeated falling off of the nails can scarcely be attributed to external violence. A sufficiently violent wound to bring on detachment of the nail would certainly have attracted the attention of the patients at the moment of its production, and eventually produced severe pain.—*London Med. Record*, August 15, 1882.

GASTROSTOMY.—On the 21st ult. SIR WM. MACCORMAC performed this operation at Hackney, on a gentleman aged 55 years (a patient of Dr. Daly), who had malignant stricture of the œsophagus. The operation, as well as the subsequent dressings, was performed with the strictest antiseptic precautions. The procedure was divided into two stages, the stomach not being opened for fourteen days from the first operation. The temperature never rose above 98.6° or the pulse above 80. The patient, during the fortnight, was fed by the rectum, defibrinated bullock's blood being chiefly used for this purpose. The patient recovered without any unfavorable symptoms. He was up sixteen days after the operation. He is now fed through the opening in his stomach four times a day; he has a pint of milk, with a couple of eggs, or a pint of beef-tea or soup, at a time. He is gaining flesh and is in good spirits. Further details of this case will be published hereafter. —*Lancet*, August 19, 1882.

SYPHILIS OF THE HEART.—Only nineteen cases of this rare affection have been hitherto described. To these B. TEISSIER (*Annales de Derm. et de Syph.*, 2me ser. t. iii., No. 6) adds another, essentially as follows:

A prostitute, 27 years of age, in the third year of syphilis, which, however, had only manifested itself in the form of buccal mucous patches, was suddenly seized with dyspnœa, followed by asphyxia and death within twenty-four hours. The autopsy showed extensive involvement of the anterior walls of the right ventricle in its upper half, the muscular tissue of which seemed to have become entirely transformed. The thickness of the cardiac wall appeared about normal, but it seemed of a peculiar light gray color, and its consistence much firmer. Section showed numerous milk-white lentil-sized nodules, both in the cardiac walls and elsewhere. These presented a caseous appearance, but were in reality of quite firm consistence, showing no trace of softening even in the centre.

In addition to the interstitial myocarditis and the gummatous deposits, there were considerable vascular alterations in the form of peri-arteritis, endo-arteritis, etc.—*Archives of Dermatology*, July, 1882.

EXCISION OF THE PYLORUS.—DR. VAN KLEEF, of the Hopital de Calvaire, Maestricht, relates in the *Presse Méd. Belge*, July 23d, the case of a woman, aged 37, upon whom he performed excision of the pylorus on account of stenosis, supervening on ulcer of the stomach attended with severe hæmatemesis. She had become greatly reduced in strength, and for some time past had been fed by the rectum. The indurated pylorus, when removed, measured 4½ by 5 centimetres, and a quill could scarcely be introduced into its aperture. The stenosis was due to cicatricial tissue, no sign of carcinoma being present. The operation lasted two hours, and an hour or two elapsed before the patient began to awake from the anæsthetic condition. Her recovery from the state of anæmia was slow but progressive, and two months after the operation she was able to leave the hospital, weighing 39 kilogrammes. At the date of the report, about six months after the operation, she weighed 45 kilos.—*Med. Times and Gaz.*, August 12, 1882.

RELATION OF DIPHTHERIA TO SCARLATINA.—At the meeting of the Societé de Therapeutique, held June 28, M. BLEODEAU referred to an epidemic of scarlatina which he had recently witnessed, in which only two out of eleven cases showed any anginose symptoms. He uses this fact as an argument against the theory advanced by M. Archambault as to the identity of scarlatina and diphtheria.—*Journ. de Méd. de Paris*, Aug. 12, 1882.

THE AURICULAR VASO-DILATOR NERVES.—MM. DASTRE and MORAT give the following *résumé* of their experiments on the vaso-dilator nerves of the auricle.

1. The auricular vaso-dilator nerves arise in the cervical region of the spinal cord.

2. On leaving the cord these nerves are contained in the anterior roots of the corresponding spinal nerves; they are especially to be found in the eighth cervical and first dorsal pairs of nerves.

3. After joining the mixed trunk of the spinal nerves, they reach the sympathetic at the level of the first thoracic ganglion through the communicating fibres.

In a word, the auricular vaso-dilator nerves have their origin in the cord, pass out through the anterior spinal roots to join the cervical sympathetic and unite with the dilators of the bucco-facial region previously described.—*Rev. Scientifique*, August 19, 1882.

FLOATING KIDNEY.—Having examined 1,422 patients (1,030 females, 392 males) at a watering-place in Galicia, the author (*Przeglad Lekarski*, 1882, Nos. 1 and 2) found in 35 subjects (32 females, 3 males) floating kidneys. In 19 patients (2 males, 17 females, 9 of whom were pluriparæ, 8 multiparæ) the right kidney floated. In 11 patients (1 male, 4 multiparæ, 6 pluriparæ) the left kidney was movable. In 5 pluriparæ, both kidneys floated. Comparing his figures with those of Landau, Dr. SKORCZEWSKI concludes that the affection under consideration is far more common than it is usually supposed, and that physicians too often overlook its existence. He supports this statement by the fact that the 35 patients were sent on account of all possible diseases except wandering kidneys. On the subject of etiology, he differs from Landau, who asserts that a pendulous abdomen prediposes to renal displacement. According to Dr. Skórczewski, such displacement depends chiefly upon on the disappearance of circumrenal fat, on atony of tissues, subsequent to acute febrile diseases, and on pressure of some hypertrophied abdominal viscera. In the author's cases, there was very often observed coexistence of floating kidneys with malarial hypertrophy of the spleen. Such coexistence was noted in 13 out of 16 cases of the left displacement, and in 13 out of 24 cases of the right; and the author emphatically recommends examination of the kidneys in all malarial affections.—*London Med. Record*, August 15, 1882.

MEMBRANOUS DYSMENORRHŒA.—DR. LUTAND concludes from a study of this subject:

1. That membranous dysmenorrhœa consists of an exfoliation of the hypertrophied uterine mucous membrane.

2. The expulsion of the mucous membrane does not take place each month; several months may elapse between each expulsion.

3. This affection is quite common in virgins and can, therefore, not be regarded as the result of conception.

4. It nearly always causes sterility.—*Ann. de Gynecol.*, August, 1882.

NEW REMEDY FOR LEPROSY.—DR. E. WESTLUND (*Transact. of Soc. of Physicians in Upsala, Sweden*), starting with the supposition that leprosy might be due to micro-organisms, tried in three cases salicylate of soda with marked effect. The first case was that of a man suffering in a high degree from lepra tuberculosa. Tubercles varying in size from a pea to a hazel-nut were found in the skin of the face, the extremities, the abdomen, the scrotum, and in the throat. The hoarseness of the voice indicated their presence in the larynx. The muscles of the hands were atrophic; the eyebrows had been lost; the hair on the head was thin and dry; the nails thick, curved, and fissured. No ulcerating tubercles. He was advised to take one gram (15 grains) of sodium salicylate five times a day in a tablespoonful of water. The patient wrote after some months to report that he was perfectly cured.

The two other cases were yet under treatment, but had improved very considerably when they were last seen.—*Archives of Dermatology*, July, 1882.

ERYSIPELATOUS ERUPTIONS CAUSED BY TINCTURE OF ARNICA.—In *L'Union Médicale*, for August 17, M. SAISSUS reports two cases in which free external use of tincture of arnica produced an erysipelatous eruption. Both cases recovered under the use of emollient applications and purgatives.

LUPUS.—The following conclusions are given by DR. RAUDNITZ (*Viertelj. f. Derm. u. Syph.*, 1882), as the result of the statistical examination of 209 cases of lupus. Neither anatomically nor clinically can a difference between scrofulous and idiopathic lupus be made out, the disease appearing in the same form in individuals already scrofulous, and in those entirely healthy.

A combination with inherited tuberculosis is only discernible in from ten to fifteen per cent. of all cases. The abscesses of the lymphatic glands so frequently met with in scrofula are almost never found in lupus. A cotemporaneous manifestation of lupus in blood relations is seen only in the rarest instances, and hereditary transmission of lupus from parents to children perhaps never takes place. The infrequency of association between lupus and pulmonary tuberculosis decidedly speaks against the identity of these affections. On the other hand the facts, that in at least thirty per cent. of the cases lupus was developed upon or only in the neighborhood of scrofulous cicatrices, or upon mucous membranes already changed by catarrhal processes; that in twelve cases, injury, and in eight cases, local attacks of erysipelas were given as exciting causes, would indicate that lupus is often due to a localized specific predisposition, the nature of which is entirely hypothetical. At all events the small proportion of cases, seventeen in number, in which lupus was found in combination with often trivial affections of the skin, seems to contradict the assumption that in lupus we have to do with a generalized predisposition of the skin to pathological changes.—*Arch. of Derm.*, July, 1882.

INTERNAL URETHROTOMY.—PROF. T. F. KOSINSKI, in a very interesting article based on his own 103 cases (Maisonneuve's) of internal urethrotomy (*Gazeta Lekarska*, 1881, Nos. 78–80), points out the advantages of this treatment in urethral stricture. The operation he regards as extremely simple and easy, and the injury caused by Maisonneuve's instrument as very slight and entirely free from any danger. The wound heals rapidly, and the subsequent introduction of bougies, practised during certain (considerably long) periods, successfully completes the treatment. The author's cases were all severe; some of them were complicated by urethral and vesical fistulæ, and the operation was resorted to only after gradual and slow dilatation had utterly failed to make the stricture permeable. Nevertheless, in all 103 cases, cure very rapidly followed. All patients got up in a few days after the operations, and, two weeks later, they returned to their occupations. Fistulæ very often closed spontaneously after the urethra had recovered its lumen. The author advises to split the anterior wall of the meatus, following the median line. After the operation, he leaves a soft elastic catheter *à demeure* for twenty-four to thirty-six hours; afterwards, the patient voids urine by the natural passage. In one-third of all the cases, on the third or fourth day after the operation, there was a considerable rise of temperature (to 102° to 104° Fahr.), followed by profuse perspiration; the further course did not show anything peculiar.—*London Med. Record*, August 15, 1882.

TREATMENT OF ALBUMINURIA WITH FUCHSIN.—Feltz and Bouchet (*Deutsch Med. Woch.*, 1879) first proposed this remedy in pills of three grains per day for chronic parenchymatous nephritis. Later, Professor di Renzi, of Genoa (*Virchow's Archiv*, vol. lxxx.), reported more fully on the use of the remedy. He gives it in pills of 2½ centigrammes (3.8 grains) each, beginning with two pills and increasing to ten per day. Under this treatment he found a marked decrease in the amounts of albumen and mucus. The drug causes distinct coloration of the urine, and if this effect is not produced, it is an evidence that the drug is not absorbed, and its use should be discontinued. Now, Dochmann (*Vratsch*), having made extensive use of fuchsin, draws the following conclusions:

1. In many cases of albuminuria, the amount of albumen in the urine is decreased under the use of fuchsin.

2. In other cases, the decrease is only apparent, as the albumen in such urine is converted into pepton more rapidly than usual.

3. The coloration of the urine by the drug bears no positive relation to the decrease in the amount of albumen.

4. Arsenic-free fuchsin can be given for a long while to adults without injury in doses of from one to two grammes per day.—*Physician and Surgeon*, Sept. 1882.

AMPUTATION OF THE TONGUE BY MEANS OF THE THERMO-CAUTERY.—In all important operations on the tongue, it is essential, 1st, that all the diseased tissue should be removed; 2d, danger of hemorrhage should be avoided; and, 3d, the entrance of blood into the air passages prevented. LANGENBECK believes that, whatever the seat of the disease, all these conditions may be fulfilled by combining his method with that of Billroth, and division of the lower jaw. From 1875 to 1881, Langenbeck made nineteen extirpations of the tongue; of these, one was operated on by the Regnoli-Billroth method, and the others by his own plan. Of these six died, and among them the case operated on by the Billroth method. Since then he has done the operation seven times with the thermo-cautery; he does not, however, state with what result. The preliminary ligation of the lingual artery is recommended.—*Journ. de Méd. de Paris*, July 22, 1882.

OSTEOTOMY—Fourteen cases in which osteotomy was done for the relief of rachitic curvatures of the limbs, for genu valgum, for ankylosis of the hip, and for complicated or viciously united fractures, serve as the basis for a recent communication by M. JULES BOECKEL, of Strasbourg, to the *Revue de Chirurgie*, No. 6, p. 461. In conneetion with these, he considers, also, nine cases communicated to the Society of Surgery, of Paris, making a total of twenty-three recent cases to be added to his previous reports on this subject. In all these cases a cure resulted. Of the whole number seven were adults of from fifteen to twenty-eight years; and fifteen were children, the youngest of whom was eighteen months, and the eldest eight years. In sixteen instances suppuration was wholly wanting, and the cases were healed with one, two, and three dressings; slight suppuration occurred in six cases; in one only was it abundant. The operation was complicated in this case by a phlegmonous erysipelas, which necessitated repeated incisions. The time necessary for consolidation to be accomplished varied from a minimum of twenty-one and twenty-eight days, to a maximum of two and three months. The final result has been most satisfactory in all the cases. A permanent cure was determined at the end of months and years—seven years in the cases first operated upon. In the opinion of the author, osteotomy, done with Listerian precautions, is, in children, so simple and harmless an operation, that their stay in hospital is unnecessary. For two years he has sent such patients to their homes, after operating, without ever having had to regret it. For the relief of genu valgum he adopts exclusively the method of Macewen.—*Annals of Anatomy and Surgery*, September, 1882.

ABDOMINAL DRAINAGE.—The following new method of drainage after ovariotomy, adopted by Dr. Kehrer (*Centralblatt für Gynecologie*, 1882), is worthy of more than a passing notice. He inserted into the cavity of the abdomen three rubber tubes into which he introduced disinfected wicks of the thickness of the little finger. The external bandage was soon wet through by the secretion, and had to be changed three times during the first two days, after which it ceased altogether. —*Canada Lancet*, September, 1882.

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SATURDAY, SEPTEMBER 9, 1882.

THE MICROSCOPICAL EXAMINATION OF GUITEAU'S BRAIN.

WE present to our readers in this issue the report of the microscopists, to whom was assigned the important task of the microscopical examination of Guiteau's brain. The gentlemen who have performed this duty are too well known as experts in this department of science to require a word of support or vindication from us. We take pleasure in the exhibition which the report makes of a truly scientific and logical spirit. The subject has been approached in a judicial temper, the examination has been made without prejudice, and the conclusions are stated with fairness.

In our remarks on the previous report of the autopsy, we maintained that there was nothing in the gross appearances to justify the theory of irresponsible mental unsoundness. But we also reserved a final judgment until the results of the microscopical examination were placed before us. We have now a demonstration of great accuracy and minuteness, involving structures not recognizable by unaided vision. With the new light thus thrown on the case what opinions must now be formed? The organic substratum on which the mental operations are conducted being thus exposed, what conclusions must be settled upon regarding the mental condition of Guiteau?

The changes discovered were chiefly in the vessels, the perivascular lymph-spaces, the neuroglia, and the cells. We will not reproduce here the details, since our readers can follow them leisurely in the report, assisted by the accompanying figures. Our function, more especially, is to interpret the significance of the pathological changes, and trace, if we can, the relation between them and the mental condition. At the outset we are debarred from throwing any doubts on the genuineness of the microscopical demonstration. Post-mortem changes, and alterations due to the methods of preparation pursued, are often alleged against the results of such minute researches. That this distrust of microscopical work is abundantly well founded, is proved by the sad mistakes of the most eminent workers. But in this instance there are means of control. Healthy and diseased structures being subjected to the same methods, the results of comparison can be relied on.

Accepting therefore the observations of the microscopists making this report, as accurate, the first conclusion we reach is—that the changes for the most part are recent in origin. Whilst numerous lymphoid cells migrating from the vessels, distended the perivascular lymph-spaces, and the pericellular spaces, the anatomical elements—the nerve corpuscle, and the neuroglia cell—were generally preserved, although in some instances they were destroyed. Masses of pigment, remains of red corpuscles, in some places filled the lymph-spaces, but generally only lymphoid cells were present. In some instances the vessel walls presented the appearances of granular degeneration, but more frequently only the endothelium exhibited this change. As regards the white fibres, there were seen, in various places, numerous lymphoid cells, on and between the separate bundles, resembling in appearance the changes in the optic nerve in descending neuritis. The above-mentioned alterations of structure in the corpus striatum were found here and there disseminated "among tissues in which nothing distinctly abnormal could be made out."

From the point of view of the mental condition, the greatest interest attaches to the examination of the different layers of the cortex. Some thinning of the first layer was noted, and more or less cellular hyperplasia. Some granular degeneration of the walls of the vessels was discovered in the second, fourth, and fifth layers. In this region, also, there was more or less pigmentation of the cells, and lymphoid cells were contained in the intercellular spaces, but the anatomical elements were for the most part present. Atrophic degeneration to any marked extent, we do not find to have taken place, notwithstanding we admit the existence of the vacuoles observed at various points. The changes just referred to were most marked in the anterior portion of the gray cerebral matter, but were generally diffused, although less in amount, as the examination extended through the cerebral cortex posteriorly.

As the anatomical elements were, for the most part, in their usual form and position, although somewhat changed by pigmentation, by the presence

of lymphoid cells, etc., and as there were only in the dura mater but doubtful evidences of any inflammatory action of a chronic type, we are led to the conclusion above expressed, that the changes revealed by the microscope, although, as stated in the report, chronic in type, are recent in origin. Such an amount of granular degeneration of the vessels as here described may be effected in the brief space of time in which such changes are wrought in acute phosphorus poisoning.

Quite apart from the time in which these structural changes have occurred, is the question of their influence on the mental state. As a marked degree of double optic neuritis may coexist with preservation of quite sufficient acuteness of vision for all ordinary purposes, so considerable changes of the organic substratum may coincide with fairly good intellectual powers. In the case of Guiteau, some changes are discovered, on microscopical examination, but do they necessarily imply a degree of mental weakness incapable of distinguishing between right and wrong? We hold that they do not. Furthermore, these changes are we believe recent in origin, therefore they hardly involve the question of his moral responsibility anterior and up to the commission of his crime. They constitute the initial stage of a malady, which, in its fullest development, is known as dementia paralytica or an allied disease; the early symptoms of which disorder correspond closely with the mental condition of Guiteau during the past year.

As, however, extensive lesions of the brain are not incompatible with a normal exercise of the intellectual faculties, it follows that the mere structural changes of the organic substratum, cannot be safely interpreted alone. The clinical history must be studied in connection with the alterations in the cerebral structures. If we pursue this logical course, we can be conducted but to one conclusion: that, although Guiteau was not strictly normal in respect to the condition of the organic substratum of the mind, and in respect to its symptomatic expression, he was, nevertheless, a responsible agent, in that he had a clear conception of the distinction between right and wrong, and realized the nature of the crime and its punishment.

There is, therefore, in the microscopical revelations, no reason for changing the opinion which we originally expressed, that Guiteau, an abnormal character, justly suffered the penalty of the law for the high crime he had committed.

PROFESSOR ESMARCH ON THE CASE OF PRESIDENT GARFIELD.

THE time has almost arrived when a reply to an attack on the course pursued by President Garfield's surgeons will, by mere iteration, have lost its interest to the profession, the great majority of whose members have long since come to a final—and a favorable—conclusion upon the subject. The adverse criticism in this country has emanated, almost without exception, from writers whose lack of surgical eminence on the one hand, and of personal familiarity with the case on the other, has greatly weakened or discredited most of their assertions.

The former of these disqualifications cannot, however, be said to apply to Professor Esmarch, who has delivered a lecture upon the subject, and has concluded that, if no search had been made for the ball, and the wound had been dressed aseptically, the patient would have been alive now.

He reaches this sweeping conclusion by the following steps, which we may venture to criticise as we mention, beginning with his statement that the wound was not in itself absolutely fatal. Upon such a question the dictum of no one man can be accepted as final, and even Prof. Esmarch's reputation will not support him against the united experience of the profession. He was of course familiar with the character of the wound of the vertebra, and he apparently does not question the probability that the splenic artery was injured either by the bullet or by a splinter of bone, although he says that this would not have led to the formation of a false aneurism, except for the establishment of "putrid suppuration." Until he can point to a case of perforating gunshot wound of the body of a vertebra followed by recovery, and can at the same time explain why an arteritis excited by injury or by the presence of foreign particles is not competent to give rise to a false aneurism, or can give reasons for believing a rupture of the splenic artery to be a non-fatal accident, we must take the liberty of differing with him on this first and most important point.

His subsequent argument rests upon the assumption that death was due to this "septic suppuration," to which he attributes the splenic aneurism, and that the formation of unhealthy or poisonous pus, was, itself, a direct result of the "repeated probing and examination of the wound with instruments and fingers not rendered aseptic; the failure to dress the wound aseptically; the syringing out of the wound with fluids not sufficiently antiseptic; and the failure to give a complete vent to the 'bagging' pus."

These statements are not in consonance with the facts of the case, and illustrate the impropriety of attempting to criticise a course of treatment the details of which have never been authoritatively set forth, owing to the interruption in the preparation of the surgical history of the case, caused by the severe illness of Dr. Woodward, to whom this task was assigned. An examination was made immediately after the accident, at the spot where it

occurred, and again, on the evening of the same day, when the President was apparently sinking from the effects of internal hemorrhage. These were, of course, absolutely required, and as far as regards the first one, at least, were made under circumstances which did not admit of antiseptic precautions. Subsequently, until the occurrence of suppuration, no further interference with the wound took place. Professor Esmarch has probably been misled in this respect, by the inadvertent statement of Dr. Bliss, in his published account of the case, that the consultants on the occasion of their first visit, introduced probes and flexible bougies into the wound. This error was not committed, and we have the highest authority for stating that no such examination was made then, or at any subsequent time, although the so-called "neglect" to explore the wound, has been made the basis of equally severe—and equally unjust—criticism on this side of the Atlantic. Dr. Bliss has since pointed out that his mistake was due to the hasty preparation of his paper, from memory and without reference to notes. It should be remembered that Professor Esmarch's hypothesis, that the patient would have been benefited if "*no search*" had been made for the ball, was advanced with a full knowledge of the results of the autopsy. It is hardly to be believed that he or any other experienced surgeon would have felt justified on the first examination in entirely refraining from exploration, or would have expressed any such ante-mortem opinion.

It is not true that the wound was not dressed aseptically, or that it was not syringed out with antiseptic fluids. Whether it was made completely "aseptic" in the absolute sense in which Prof. Esmarch uses that term, is another question, but no practical surgeon can fail to understand the almost insuperable difficulties which stood in the way. A wound, contused and lacerated like all gunshot injuries, splintering bone, passing through a dense fascia like that covering the psoas muscle, through muscular fibres running at right angles and tending to close over it, and again through bony structures, opening venous sinuses, and forcing fragments of a vertebra into surrounding soft parts, is not well situated for the application of Listerism. Admitting as an axiom that all wounds *should* be rendered aseptic, it by no means follows that all wounds *can* be. Lister himself does not claim that.

Still we are authoritatively informed that what could be done in this direction was done, and that none of the precautions dictated by modern antiseptic surgery were omitted; certainly if dressing the wound under carbolic spray, washing it out with carbolated water and with permanganate of potassium, employing antiseptic gauze and other dressings, and disinfecting all objects brought in contact with it, constitute "asepticism," that condition was attained in the President's case.

As to the alleged failure to give vent to the pus, the history of the case and the post-mortem examination both demonstrate that the incisions, which were promptly made upon the earliest evidence of pus accumulation, were well planned, and that drainage was thorough and complete. The first operation was done within a few hours after the second visit of the consulting surgeons; the second operation laid open the abdominal parietes and the post-peritoneal lumbar space. That these incisions effected the desired object is conclusively shown by the absence at the autopsy of any pus collections along the track of the wound or in its vicinity.

Professor Esmarch's deserved eminence as a surgeon will give his utterances upon this, as upon all other surgical topics, wide-spread circulation, but it is not sufficient to disguise the fact that, arguing from incorrect and insufficient premises, he has reflected most unjustly upon some of his surgical peers in this country.

The mere fact that, with no precaution to verify the theories as to the details of the treatment upon which his entire argument is founded, he has voluntarily assumed the position of a critic and a detractor is of itself sufficient to take from his utterances much of their weight, and certainly will not add to his professional reputation.

We have never hesitated, since the publication of the autopsy, when it first seemed proper to discuss the subject, freely to express an opinion that the course pursued by the attending surgeons was deserving of praise and support, while that of their self-appointed critics was equally to be condemned as both unethical and unreasonable. We see nothing in the report of Professor Esmarch's lecture to cause us to change either of these opinions.

THE RELATIVE CURABILITY OF EPILEPSY AT SALPETRIERE.

DR. FERRAND has taken the above topic for the subject of his thesis (*Thèse de Paris*). The observations were made at the great hospital for the chronic insane and epileptics, under the direction of Dr. Legrand, on eighty-nine insane or idiotic epileptics. They were treated methodically with bromide of potassium, with the following result: Twelve cases were decidedly benefited, fifty-one were improved, sixteen were slightly benefited, and only ten received no benefit whatever. These figures are certainly encouraging when we remember the helpless character of these subjects.

Dr. Ferrand strongly insists on the mode of administration as an important factor in the results. In commencing the treatment, he gives two or three grammes (31 or 46 grains) or more daily, and in-

creases the quantity by fifty centigrammes (8 grains) every fifteen days or every month, until the daily quantity reaches, for women, five or six grammes, and for men six or eight grammes. Ferrand strongly criticises the method of Nothnagel and Rossbach, who advise that the treatment begin with a daily dose of five grammes (about 80 grains), and this be increased until ten, fifteen, or twenty grammes are given, a quantity that must produce the most pitiable effects. He commends the plan at present pursued by Dr. Legrand, which is as follows: After the attacks are suspended for one year by the administration of the bromide, as above suggested, it is given six days in the week; after fifteen months, five days; after eighteen months, four days; and after two years, three days.

Does bromide of potassium ever cure epilepsy? Opinions differ. Dr. Ferrand thinks that, administered systematically and perseveringly, all the epileptic phenomena may be entirely suspended. Aug. Voisin thinks that the curability of some cases is absolutely assured. Although Dr. Ferrand is less sanguine, and holds that the apparent cures were examples of epileptiform seizures, due to alcoholism, syphilis, plumbism, etc., he finds that many of the accompanying troubles are much modified, such as the nervous state, maniacal delirium, and the insane impulse, all of which are calmed by bromide. It exercises, too, a happy influence on the intellectual troubles. Epileptic mania is extremely improved. The nocturnal incontinence of urine is arrested by it, as also the aura; but the vertigo resists longer than any other symptom.

Bromide is eliminated by the sweat-glands, and free bromine, disengaged, excites different kinds of eruptions—acne, erythema—which sometimes give rise to unhealthy ulcers, urticaria, and eczema. Acne may be prevented by the simultaneous administration of arsenic, but ulcerations require the suspension of the remedy. The most frequent ill-results of improper methods of administration are headache, somnolence, impaired locomotion, gastric irritability, constipation, anæmia, feebleness, etc. Dr. Ferrand makes no mention of the mental disorders which have been observed in this country from the use of large doses of bromide of potassium.

IPECACUANHA IN DYSENTERY.

An increasing professional experience in the use of ipecacuanha in dysentery, amply confirms the original statements as to its very special value. There is, however, a singular lack of appreciation of its curative effects, and an unwillingness on the part of many physicians to give the remedy in sufficient quantity.

To cure acute dysentery with ipecac, its purgative effects must be induced.

To develop the cathartic action of ipecac, it must be taken in quantity.

It has been found that from one scruple to one drachm, every four hours, until the characteristic stools are produced, is the amount necessary. How to secure the retention of this quantity by the stomach is a vexatious problem. Combination with aromatic powder sometimes suffices, and this should not be neglected in any case. The conjoint administration of carbolic acid and bismuth, will diminish the irritability of the stomach. The powder is best swallowed mixed in milk; a mustard plaster should be previously applied to the epigastrium, and some bits of ice allowed to melt on the tongue until the nausea ceases. If rejected several times, presently tolerance is established, when the maximum doses will be retained. When "the ipecac stools," as their peculiarity entitles them to be called, are passed, astringents complete the cure.

CHLORATE OF POTASSIUM IN EPITHELIOMA.

In an elaborate article on the various modes of treating epithelioma of the face, Prof. Terrillon refers to the good effects of chlorate of potassium in the more benign cases. Although he proposes other expedients, he recognizes the utility of the chlorate in many instances.

NAPELLINE.

We have already given an account of this rediscovered alkaloid—for, as we pointed out, it had been isolated and its chemical properties defined, long before Duquesnel had resurrected it from the grave of forgotten facts. Under the stimulus of new investigations, its properties are becoming better known, and it excites the interest alike of the pharmacologist and the practical physician.

Napelline differs from aconitine—its associated alkaloid—in these respects: it is not crystallizable; it is very soluble, and it possesses properties in some degree peculiar to itself. It has a distinct soporific action, compared by Laborde to that of narceine, and it acts like aconitine in lessening the sensibility of the sensory nerves. It may be administered, therefore, in a great many painful affections, in which insomnia is a pronounced feature. Dumontpallier, who has employed napelline in his hospital practice, finds it effective in the treatment of facial, sciatic, and intercostal neuralgia.

As napelline is very soluble and diffusible, it is suitable for hypodermatic injection. Laborde has administered it in the dose of three centigrammes —about one-sixth of a grain. It is, therefore, much less powerful than aconitine.

Should future trials confirm those above referred to, napelline will occupy an important position as a remedy.

SPECIAL ARTICLE.

OFFICIAL.

REPORT OF THE MICROSCOPICAL EXAMINATION OF THE BRAIN OF CHARLES J. GUITEAU,

WHO DIED BY HANGING JUNE 30, 1882, AT THE UNITED STATES JAIL, WASHINGTON, D. C., IN EXECUTION OF JUDICIAL SENTENCE.

D. S. LAMB, M.D.

SIR: The committee of three whom you, with the assent of Rev. Dr. W. W. Hicks, requested to make a careful microscopical examination of sections from the brain, dura mater, and lung of the late Charles J. Guiteau, and to report the conditions found to be present, have completed their investigation, and have agreed upon the following:

REPORT.

Thin sections, prepared by Dr. J. C. McConnell of the Army Medical Museum, from the lung, dura mater, and brain, were submitted to your committee for their inspection.

The committee regret that the preparations presented did not more completely represent the whole brain and its membranes.

The Lung.—The sections of lung were from the left upper lobe. Their appearances were common to miliary tubercle. Some of the minute nodules consisted of aggregations of recently formed miliary tubercles in which giant-cells were quite distinct. Others contained older foci of similar aggregations which had undergone corneous degeneration.

Considerable pigmentation of the pulmonary parenchyma, very like that of anthracosis, was also to be seen.

Dura Mater.—The sections of dura mater were from the region of the middle meningeal artery. They showed but few, if any, signs of inflammatory action, and there was not much thickening evident.

Brain.—The brain sections comprised the following series, viz., sections from two portions of the *corpus striatum*, marked respectively, corpus striatum 1, corpus striatum 2; and sections from four portions of the gray matter of the convexity or cortex of the cerebrum, labelled respectively frontal region, convexity 1, convexity 2, convexity 3. Those from the frontal region were probably from the superior frontal convolution, whilst those marked convexity 1, 2, and 3, were cut respectively from the ascending frontal, the ascending parietal, and the superior parietal convolutions bordering upon the median longitudinal fissure, but the committee were not informed from which hemisphere.

A close examination of these sections, under a high power of the microscope, revealed the lesions noted below:

Corpus Striatum 1.—Not a few of the bloodvessels, particularly capillaries and venules, were decidedly abnormal. Their perivascular lymph spaces were often more or less completely filled with masses of yellowish-brown pigment granules, which appeared to be the degenerated remains of old blood extravasations (see *d*, figure 1).

FIG. 1.

In areas very numerous but mainly limited to the gray or ganglionic substance, the capillary blood vessels presented their walls in a state of granular degeneration (such as that indicated at *k*, figure 7). Sometimes these granules were limited within the endothelial cells, constituting the wall of the capillary, but often they were found for a considerable distance completely encircling the vessel.

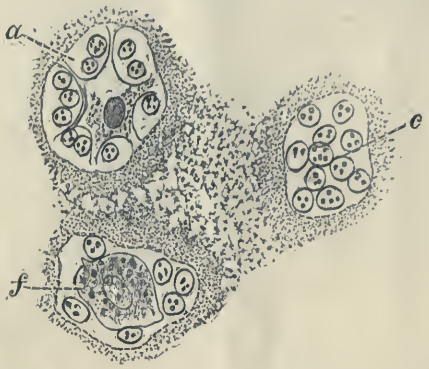
The lumen of the bloodvessels was usually void of blood corpuscles, and was patulous. A small number of very minute recent hemorrhages were to be seen.

In the gray or ganglionic matter of these sections were quite numerous areas, in which alterations of the neuroglia and of the ganglionic nerve corpuscles were very plainly visible. In them the pericellular lymph spaces were much crowded with lymphoid elements (*d*, *e*, *f*, figure 2). In some such areas, as at *e*, the whole space seemed to be occupied by collections of such cells, no trace of the neuroglia cell or nerve corpuscle remaining. Most frequently, however, neither the encompassed nerve corpuscle nor the neuroglia cell was destroyed. On the contrary, their nuclei and branched processes were generally distinct. Yet in many cases the body of the cells was extensively tinged with a yellowish-brown pigment, and, in a smaller number of cells, the presence of well-defined, dark granules in the cell-body was sufficient to mask entirely the nucleus, if any existed, Moreover, in the latter case, the cell processes were sometimes much less numerous than normal, and the body of the cell was not so angular (something of this condition is represented at *f*, figure 2).

Corpus Striatum 2.—In these sections, the neuroglia and nerve corpuscles were found to be in much the same condition as above noted.

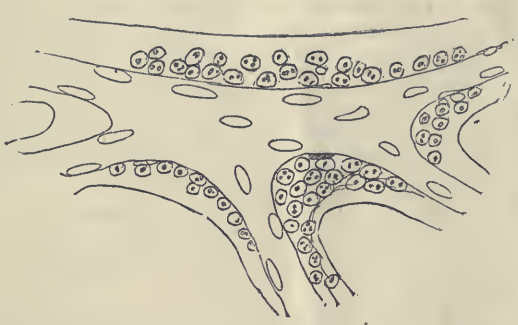
In a general way it may be stated that the cellular hyperplasia or cell multiplication was more marked than in No. 1.

FIG. 2.



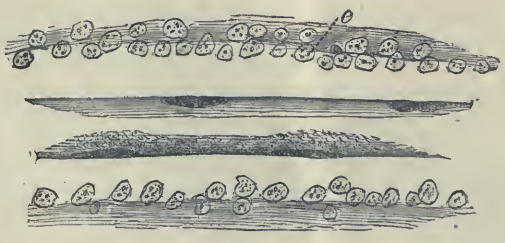
With respect to the lesions of the bloodvessels, two departures from health were noteworthy. Instead of those lesions consisting of the remains, in the perivascular lymph spaces, of blood extravasa-

FIG. 3.



tions, as in the first sections examined, these spaces at points along the course of the vessel were often found crowded with lymphoid elements. In some instances, these white cells were clustered closely around and adherent to the wall of the vessel upon its exterior, and often most abundantly aggregated in the immediate vicinity of a bifurcation (see figure 3). In others the cells were closely packed together

FIG. 4.



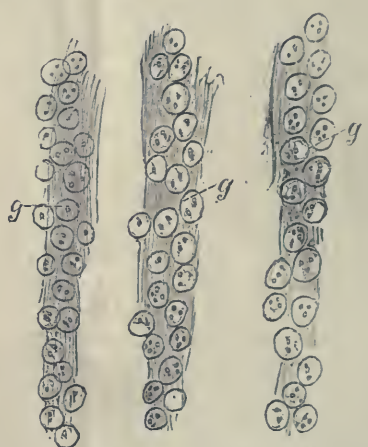
upon the external wall of the perivascular lymph space and slightly infiltrated the adjacent neuroglia (see *e*, figure 4).

In the white fibrous nerve substance there were isolated bundles of nerve fibres and collections of such bundles (see *f*, figure 5, low power, and *g*,

FIG. 5.

figure 6, high power), easily distinguished from the others by the presence, in greatly increased numbers, of cell elements upon and between them. Under a high power of the microscope, these elements were found to be outside the capillary bloodvessels, and to occupy the same relation to the nerve bundles and to the vessels, and to present the same general microscopic picture as that seen in longitudinal sections of the optic nerve in a descending optic neuritis.

FIG. 6.



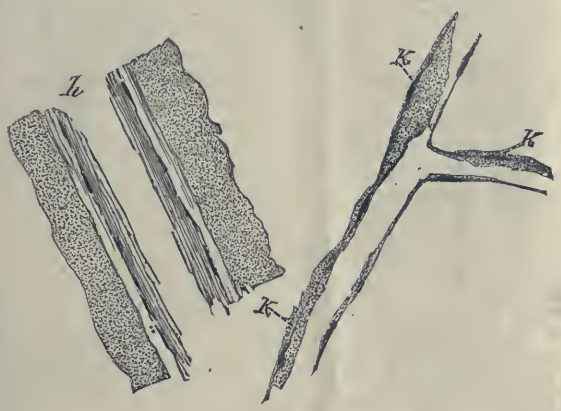
The areas of diseased structures above mentioned were more or less diffusedly scattered among tissues in which nothing distinctly abnormal could be made out.

Cerebral Cortex. Frontal region.—The first layer seemed to be thinned almost to nothing in spots at the convexity of the convolution. The depths corresponding to these spots were, perhaps, a little more hypercellular than other portions. In the second, fourth, and fifth layers, especially in the two latter, the bloodvessels presented, in a marked degree, degenerations similar to those remarked in the corpus striatum (see *h*, *k*, figure 7).

In the second, fourth, and fifth layers, the pericellular spaces, both of the neuroglia cells and of

the ganglionic corpuscles were more or less filled with lymphoid cells. In these layers, some ganglion nerve cells were also quite freely pigmented. Sometimes one-half the body of the cell was densely packed with pigmented granules to such an extent as to veil the nucleus, but the latter as well as the enclosed nucleolus even then could generally be discerned, although with difficulty.

FIG. 7.



This cellular hyperplasia was much more marked in the fourth and fifth layers than elsewhere, and was pretty uniform throughout them, yet even here there was an obvious tendency to distribution *en plaques*.

In the subjacent white nerve fibrous substance, the vessels were also sometimes slightly altered, and a few examples of cellular hyperplasia along the nerve bundles, much as was described for the corpus striatum, were rarely seen.

But few recent hemorrhages were visible in the sections examined.

Covexity Nos. 1, 2, 3.—The same abnormal appearances were remarked in all these sections, varying only in degree. It is sufficient to state that they were usually identical with those noted in sections from the frontal region, the only difference worth mentioning being the fact that the areas in which the vessels offered a granular degeneration were much less numerous and extensive than in the frontal region.

In the foregoing report it is to be assumed that the structures not specially mentioned were found in a condition so nearly normal as to call for no remark.

It should be stated, however, that in these various brain sections numerous so-called minute vacuoles were found. Whether these forms were real cavities or were transparent, highly refracting bodies of a definite constitution which was not revealed by the method of preparation, the committee do not undertake to say. Neither do they, in view of the widespread difference of opinion among observers, feel warranted in expressing a positive opinion as to whether or not these so-called vacuoles are to be regarded as post-mortem changes.

As bearing somewhat against the assumption of a post mortem origin for such appearances in general, the following facts, besides many other considerations, may be referred to:

1st. They are not constantly found in brains which have been obtained thirty-six and forty-eight hours after death, long after decomposition has set in.

2d. They have not infrequently been found in brains of animals killed for the purpose of experiment, when the nervous tissue has been instantly subjected to the action of the most perfect preservative fluids.

3d. They have been met with when the brain substance has been examined perfectly fresh.

4th. If they are the result of post-mortem change, they should not be met with immediately after death, but should appear and increase in number as decomposition advances. Yet no such relation to the time of death and state of decomposition has been observed for them.

In estimating the significance of these vacuoles in Guiteau's brain, it should be remembered that the specimens were obtained and submitted to the action of the preservative agents not more than five or six hours after death, an early period rarely possible with human subjects; that the microscope showed the elements of the brain well preserved in other respects; that in some brains examined forty-eight hours after death these appearances are absent, and in others they are often less numerous than they were found to be in this particular brain; finally, that they were associated with abnormal conditions of the bloodvessels and of the cellular elements of the brain.

In conclusion, your Committee have no hesitation whatever in affirming the existence of unquestionable evidence of decided chronic disease of the minute bloodvessels in numerous minute diffused areas, accompanied by alterations of the cellular elements in the specimens of brain submitted for their examination. Whilst the lesions found were most marked in the corpus striatum and in the frontal region of the cerebral cortex, yet they very diffusely pervaded all portions of the brain which the sections represented.

They are of the opinion that all of the lesions to be recognized in the sections placed in their hands have been pointed out in the foregoing report. They regret that it has not been possible to subject the tissues to all the tests which might determine the nature beyond a peradventure of the so-called vacuoles referred to.

They have not been called upon to pass upon the bearing the lesions found might have upon the state of the subject's mind, and, therefore, do not offer an opinion.

Respectfully submitted,

J. W. S. ARNOLD,
E. O. SHAKESPEARE,
J. C. MCCONNELL.

SEPTEMBER 4TH, 1882.

Dr. Lamb furnishes the following measurements of Guiteau's skull:

Cranium of a male, age nearly 41.

Internal capacity,	1530 cc.
Length,	182 mm.
Breadth,	144 "
Breadth of frontal,	97 and 125 "
Height,	133 "
Index of foramen magnum,	45 "
Frontal arch,	290 "
Parietal arch,	323 "
Occipital arch,	243 "
Longitudinal arch,	380 "
Circumference,	521 "
Length of frontal bone,	127 "
Length of parietal bone,	135 "
Length of occipital bone,	183 "
Zygomatic diameter,	125 "
Facial angle,	71°

Skull, mesocephalic.

SOCIETY PROCEEDINGS.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Sixth Annual Meeting, held at Newport, R. I., August 30th and 31st, and September 1st, 1882.

THE American Dermatological Association held its sixth annual meeting at the Ocean House, Newport, R. I., August 30th and 31st, and September 1st, 1882, holding morning and evening sessions daily. DR. JAMES NEVINS HYDE, of Chicago, President, and Dr. W. A. Hardaway, of St. Louis, Vice-President, presided over the deliberations of the Society.

AUGUST 30TH—FIRST DAY.

After a short business session, with closed doors, the morning session was opened by the following

ADDRESS BY THE PRESIDENT, DR. JAMES NEVINS HYDE,

Gentlemen of the Association: It becomes my agreeable duty to utter a few words of greeting and welcome at the opening of the sixth annual meeting of the American Dermatological Association.

The mere announcement of this fact suggests to us that this is an occasion for congratulation. The survival, for even this relatively brief period of time, of any special association of American physicians, ought in some measure to demonstrate that it had occupied its ground and was giving promise of a future. But when such an association is in position to give a good account of work actually accomplished, surely this supplies both a reason for its existence and an argument for its perpetuity.

Five years do not, it must be admitted, furnish a measure of time on which to predicate maturity, but five years of dermatological work in this day of intellectual activities and scientific appetite, five years of this work done in an association without a predecessor and in the absence of precedent, five years of such work in a country where the special cultivation of the field is of comparatively recent date, this may indeed be a source of profound satisfaction. During these few years of its existence this Association has been in actual session for less than a fortnight altogether, yet the labor which it has stimulated, the influence which it has exerted, and the position which it has attained both in this country and abroad as a body of scientific co-laborers, all these are to be estimated by another standard than that merely of time. Were its work to be concluded with this session, and the last paper to which it should listen be that read on the closing day of this meeting, I should find no fewer reasons for congratulating you on the results accomplished in these five years of labor. No man could sit down to-day to write the history of the progress of medicine in this country for a similar period and omit to mention the contributions to its literature directly and indirectly made under the auspices of this Association. No man could sit down to-day to trace the progress of medical education for a similar period in these United States of America, and be silent upon the increased attention given to the study of cutaneous diseases in our schools of medicine. A large part of this, indeed, is due to the presentation, on the part of this Association, of the claims of such study to a higher recognition, based not merely upon the attractiveness and interest which it always awakens but upon its essential importance.

Five years ago many of our recent graduates in medicine recognized eczema only as a vesicular disease, and their armamentarium for cutaneous maladies was restricted to arsenic for internal use and the benzoated oxide of zinc ointment for topical employment. To-day, many even of our undergraduates who have not yet passed their final examination for a degree, can distinguish between the varieties of lupus, can point out the lesions of pediculi on the skin of the syphilitic patient, and can affirm that this or that eruption is of artificial origin. I do not think that it is claiming too much to hold that for this improvement and promise the influences exerted by this Association are in part responsible.

Reviewing, then, even for this relatively brief period of time, the results actually accomplished by the American Dermatological Association, it occurs to me that we can find reason for congratulation in the following facts:

First. The ground has been occupied. The Association has demonstrated its existence and its capabilities of usefulness to the medical profession of the country. It is here recognized as solely assuming to limit its membership to experts in the field which its occupies; and its proceedings have attracted an attention and been awarded a meed of authority largely proportioned to these conditions.

Second. It has avoided dangers which beset the path of many ventures and experiments. It has assumed no financial obligations which it was not in position to redeem. It was, at the time of its first organization, fortunate in the adoption of a sufficiently simple scheme of self-perpetuation and procedure, in consequence of which it has been enabled to escape the burden of an elaborate and complicated system of rules. It was, moreover, in no haste to enlarge its membership, wisely preferring that its portals should be opened to those only who had previously demonstrated their special fitness for such honor. It has also escaped the dangers incidental to bodies composed of an equally limited number of men acknowledging a community of interests and actuated by similar motives. Its discussions have never lacked virility, and that degree of divergence of opinion and practice which will always characterize the disciples of a true science, so long as there subsists the recognized proportion between the known and the knowable, the attained and the attainable. That upon which we all agree, probably bears an increasing ratio to that upon which we all differ, and with this every scientific association must perforce for the time be content. When the representatives of these bodies are upon all points agreed, then the reasons for their corporate existence are reduced to the level and scope of a mere sentiment.

Third. The transactions of the Association bear witness to the creditable amount and character of the

work performed by its members, both within and without the limits of its sessions. The line of thought in which your attention is thus directed, has been in part suggested by the fact that you are this year to receive the consolidated report of the Chairman of the Committee on Statistics, covering the entire period during which those statistics have been in course of collection. This report will be fitly presented by the first President of the Association, to whose address on the occasion of its first meeting we are indebted for the suggestion, subsequently formally adopted and set in force, relative to the organization of that Committee. This report will inform you that we have collected the statistics relative to no less than sixty thousand cases of cutaneous disease, a larger number than has been heretofore tabulated in any country. The value of these figures, collected as they have been from many and distant parts of the same country, can scarcely be overestimated. It is difficult to believe that the permanent Chairman of this Committee, when his project first assumed definite shape, could have realized how rich would be the results obtained within the time thus far devoted to the work.

We can also refer with satisfaction to the value of the various papers which have been read before the Association, of the cases and specimens which have been exhibited, and of the annual summary of the contributions to dermatology.

Fourth. A final cause for congratulation may be recognized in the fulfilment of the other purposes of the Association, as these are set forth in the address of the first President of the Association, read at our first gathering. These relate to the fostering of an acquaintanceship, to say nothing of the resulting friendship between gentlemen of distant parts of the country, each of whom, however, otherwise made familiar with the special work accomplished by each other, would, without the facilities afforded by the meetings of this Association, be to that extent isolated in his professional labor and interest.

With this fair showing for the past, we naturally turn to the future. It is impossible to doubt that this Association gives a promise of usefulness to its members, and in a scarcely less degree to the medical profession of the country, whose realization will be indeed precious. By pursuing the same straight and simple path which it has heretofore recognized as safest, making sure of its facts and securing the results, with a cool disbelief for that which can not be shown to be worth accepting, it surely needs no great change in either its purpose or policy to reach the desired end.

The President then offered a few suggestions as to the direction and method of further development of the resources and opportunities of the Society, and concluded by expressing the hope that he who shall in five years from this time, pass under review the achievements of this Association during the first decennial of its existence, may find it his agreeable duty to chronicle a proportionately larger measure of good results accomplished, and to point to no less brilliant prospects in the future.

DR. C. HEITZMANN, of New York, then delivered an oral communication entitled,

STUDIES ON MYXO-ANGIOMA OF THE SKIN, CLINICAL AND MICROSCOPICAL.

The peculiar vascular formation sometimes improperly termed *teleangiectasis*, which means simply a dilatation of the vessels, is a very common affection, and may be found on almost any skin. It consists of a new growth of vessels, and is, therefore, a true angioma. It appears in (1) a superficial form, *simple angioma;* (2) invading the glands, *lobular angioma;* (3) entirely subcutaneous, *cavernous angioma*. He confined his remarks to the first form. Microscopically the bloodvessels in this variety were sometimes found imbedded in a homogeneous substance, which it is impossible to define either as myxomatous or sarcomatous, but from other studies he had reached the conclusion that it is really myxomatous, and, therefore, according to the nomenclature of the Association it would be called a myxo-angioma—*myxo* describes the character of the growth, *angioma* indicates the presence of vessels. They vary in size, sometimes are progressive, though they do not generally grow to a great size; at others they remain stationary for an indefinite period. Hardly raised above the skin usually, they yet may appear as lentil or pea-shaped excrescences; they are readily recognized by their red color which can be made to fade on pressure; it is generally of a dark hue. They occasionally ulcerate, and sometimes bleed. They may be successfully extirpated in two ways; if pedunculated, they may be cut off with the scissors, and the next moment applying a stick of nitrate of silver, or smoking nitric acid to the spot; if they are sessile, the smoking nitric acid should be applied directly. He had used the galvano-cautery only to a slight extent, but his experience with electrolysis in epilation had taught him that this method might also be useful in the treatment of angiomata.

As regards etiology, he was unable to give any explanation of the cause of the myxomatous degeneration or of the increase of the bloodvessels, but from careful observation he was able to describe how the new formation occurred, the new vessels budding out from the walls of the old; at first they are solid, and afterwards become tubular.

Dr. J. NEVINS HYDE, of Chicago, read a paper on

DERMATITIS PAPILLARIS CAPILITII.

This he described to be a localized inflammation of the deeper structures of the skin, occurring in patches on the nucha, especially beginning at the junction of the hairy scalp with the neck. The patches were not uniform in size, but varied up to the size of the palm of the hand. The border of the *plaque* is usually irregular, and is sharply defined, the whole *lesion* being elevated more or less. The surface was not pigmented, nor otherwise affected. In shape the patches were irregularly roundish. Upon making a small opening in the centre of the lesion, a considerable quantity of pus exuded, followed by thin mucus-like fluid tinged with blood. By pressure the subcutaneous cavity which evidently existed, would slowly empty through the puncture, and when pressure was removed, the cavity would gradually fill with the bloody fluid referred to, which could again be forced out by pressure. This manipulation could be repeated several times. The fluid was suggestive of that recognized in the form of ringworm known as *kerion*, but no parasite was present, and the lecturer was disposed to regard the affection as an inflammation of the deeper structure of the skin of the hairy scalp, which assumed at its commencement the papular form.

At the EVENING SESSION, DR. ROBERT W. TAYLOR, of New York, read some

NOTES ON PSORIASIS.

After calling attention to a view concerning the pathology of psoriasis expressed by Erasmus Wilson, that it was a remote outbreak of syphilis after transmission through several generations, he said that he had been interested in investigating the possible relationship, and had made a practice for several years of interrogating patients closely as to the existence of syphilis in the family. Further observation had impressed upon him that, in fully twenty-five per cent. of his cases, he could obtain a history of syphilis in one or both parents. In none of these was the specific disease in an active stage.

In one, syphilis had occurred fifteen years before, and in another the last outbreak had appeared fully three years prior to the birth of the child affected with psoriasis. In all the cases the psoriatic children had been the later ones; in one instance the sister had notched teeth and other evidences of syphilis, but the brother born afterward was afflicted with psoriasis. Usually psoriasis shows itself before puberty, he had seen it as early as the second year, and in most cases the first manifestation occurs in the early years; it is a disease incidental to the developmental period of human life. Certain cases of papular syphilis show some resemblance to psoriasis that are perplexing, it is also like it in the inveterateness of the disorder.

As Hebra has taught, the prognosis of psoriasis is usually bad, still it may be cured, if treated early, in a great many cases. In young subjects the combination of arsenic and mercury known as Donovan's solution had proved very efficient in his hands. After the disease has existed for a long time and impressed the pathological tendency upon the skin, it becomes much more difficult to overcome.

DR. ROHÉ, of Baltimore, read a report of

TWO CASES OF ACUTE GENERAL PSORIASIS FOLLOWING VACCINATION.

The first case was that of a physician, aged twenty-eight, who had never suffered from any skin affection, rheumatism, gout, or syphilis. Neither had any of the recognized manifestations of these disorders appeared in any member of the patient's family.

About ten days after an unsuccessful vaccination with bovine virus in last January the punctured spot became scaly and very itchy and reddened. In the course of the following two weeks the entire body, except the palms of the hands and soles of the feet became covered with small, scaly, red papules, which rapidly enlarged. The eruption was more thickly aggregated on the extensor surfaces of the arms, the thighs, and trunk. The itching was very intense, interfering seriously with the rest and nutrition of the patient. The diagnosis of acute general psoriasis was made after a few days' observation of the case.

Under arsenic the trouble grew worse, the irritation increasing considerably. The arsenic was stopped and acetate of potash in half-drachm doses, with half a drachm of fluid extract of taraxacum, was ordered thrice daily, with a daily hot bath rendered alkaline with carbonate of sodium. In three weeks after the beginning of the alkaline treatment the eruption had entirely disappeared. The spots retained the characteristic dark-colored pigmentation of psoriatic *plaques* for some time after the production of scales and the infiltration of the skin had disappeared.

The second case was that of a nine-year old boy who, several weeks after a successful vaccination with bovine virus, developed an attack of general psoriasis, which yielded to the administration of Fowler's solution in three-drop doses.

Dr. Rohé stated that he had not been able to find in the literature any mention of the connection of psoriasis with vaccination.

CALX SULPHURATA.

In a short communication, Dr. H. G. PIFFARD referred to the observation of Ringer, concerning the use of sulphide of calcium in acne, and said that he could confirm it from his own experience. There is great variation in the composition of the salt as dispensed by druggists, some of it being nearly free from sulphur, and one specimen he had examined contained no sulphide of calcium whatever. At best, its composition is not uniform, and therefore the new pharmacopœia would consider it under the title of "sulphurated lime." Pure calcium sulphide is a pharmaceutical curiosity, and would be much more expensive.

He attributed the reported failures from the use of this drug to the defective composition, and to the habit of increasing the dose. It should be given ordinarily in doses of gr. $\frac{1}{10}$ to $\frac{1}{4}$, and rarely as high as one grain. In acne, the amount should vary with the grade of the disease; the more acute it is, the smaller should be the dose; with it he sometimes uses locally a dusting powder of sulphur.

He had also used the calx sulphurata successfully, in the eczema of children, and in the eczema of the chin in the male, the non-specific sycosis of some authors; in the latter he also pulls out such hairs as emerge from pustules, and had seen very good results in cases that had resisted the local treatment alone.

In a case of diabetes, he had noticed that the sugar had disappeared while the patient was taken this drug, and two cases of swelling of the lip had yielded promptly after a few doses had been taken.

AUGUST 3D.—SECOND DAY'S SESSION.

DR. WM. A. HARDAWAY, of St. Louis, reported

A CASE OF PIGMENTED NEOPLASM OF THE SKIN.

A merchant, 40 years of age, without skin disease in his family previously, presented himself for treatment with a number of deeply pigmented spots on his face. Although he had a history of gonorrhœa, and vegetations behind the glans penis, he denied symptoms of syphilis; never had sore throat, skin eruption, falling out of hair, etc. He was married in 1878, and had two healthy children. He had varioloid in 1868; he had a discharge from the ear since childhood. He noticed a number of enlarged glands in various situations, notably in the axilla, neck, groin, and elbow, on both sides, about 1871, when he had the vegetations already noticed. To rid himself of these, he took iodide of potassium, on his own responsibility, for several months. About three months later he stopped it because papules appeared on his face, which, as they subsided, left dark pigmented spots. Subsequently, spots came without being preceded by papules, and slowly increased in size. Vigorous anti-syphilitic treatment by another practitioner produced no effect on glands or spots.

An oil painting of the case was submitted with the paper. The skin, except in the parts occupied by the patches, is perfectly normal. Besides those on the face and neck, other spots exist upon the knees and insteps. They vary from the size of a split pea up to one 2 inches by 1 inch in width, the large ones being on the neck. The general shape of the patches was oval. The centre of the lesions was pinkish, but the borders were decidedly orange-hued, the small ones were all orange-colored. The centre of large patches is traversed by vessels which do not run into the border, the small ones do not show these vessels. The border of large spots, and the surface of small ones is slightly cracked and frayed, but the large centres have a smooth epidermic covering. The orange-colored border, about $\frac{1}{8}$ inch in width, was slightly elevated, centres somewhat depressed. The smaller ones are slightly raised. Upon pinching up the neoplasm it was found that the skin was slightly infiltrated, but the patches were freely movable. The large patches on forehead appeared to be undergoing involution at the centre. There was no difference in sensibility in the patches, and perspiration was not absent. A piece of the largest patch was excised for microscopic examination, and sent to Dr. Heitzmann. The wound was united by sutures, and healed by first intention.

Dr. Heitzmann reported that the growth had the characters of a *myeloma* or pigmented medullary sarcoma of the skin.

THE NERVES OF THE SKIN.

A valuable contribution to the histology of the skin and the sensory nerves was read by DR. A. R. ROBINSON, of New York, in a contribution based upon original microscopical study of the structures named; it was accompanied by some beautiful sections for exhibition with the microscope.

In this paper the author discussed the course and mode of termination of the medullated and non-medullated nerves present in the skin. The non-medullated, he stated, form plexuses both within the skin and epidermis; but in neither situation did he find the nerves ending with free extremities, as is usually stated. The majority of the medullated fibres pass into the papillæ and form loops, the fibres returning either into the corium or into neighboring papillæ.

He described the structure of the tactile corpuscles, showing that the striated appearance depends upon nerve fibres and upon the neurilemma. This was proven by the action of a weak solution of caustic potash upon gold specimens. He reviewed the evidence in favor of the corpuscle being a structure within which the nerve fibres terminate; denying its correctness, and maintaining that the corpuscle represents only a nerve plexus, basing his view upon the following grounds:

1. Medullated nerve fibres not connected with tactile or Pacchionian corpuscles, form loops within the papillæ, and return to the corium or neighboring papillæ.

2. Non-medullated nerve fibres form loops and plexuses within the papillæ and epidermis, and probably do not terminate by free extremities.

3. In the majority of tactile corpuscles two nerves can be observed to be in connection with it, the one at the base and the other generally at the upper part.

4. Instead of a single medullated fibre at the upper part there is sometimes two medullated, or two or more non-medullated.

5. That the nerve entering at the base can often be seen winding upward toward the apex and forming the transverse striæ, which color in gold.

6. That the nerve within the corpuscle generally retains more or less of its medullary sheath, and rarely divides in this situation.

7. The complete absence in many corpuscles of any irregularity of contour of the fibre; hence absence of any structure resembling the end-buds of Langerhaus.

8. The nerve fibre in connection with the corpuscle at the upper part can be seen to be in connection with the transverse nerve striæ which appear to come from the winding upward of the afferent nerve.

Thirty-six wood engravings accompany the paper.

THE QUESTION OF THE CONTAGION OF LEPROSY.

In a very elaborate communication (which will appear in full in the October issue of the *American Journal of the Medical Sciences*) Dr. JAMES P. WHITE, of Boston, discussed the question of the contagiousness of leprosy. He regards the term "sporadic leprosy" with great distrust, since on account of the chronic character of the disease and the want of control over patients afflicted with it, it is impossible to say that a case might not have been communicated by contagion from some other. There are an unknown number of lepers in the United States, existing as widely separated as San Francisco, New Orleans, and New York. There is also a settlement at Cape Breton in Canada. He regarded the whole subject as one worthy of the attention of the General Government and the National Board of Health, in view of the facts showing that the disease is communicable from the sick to the well, and practically incurable.

THE USE OF ERGOT IN SKIN DISEASES.

Dr. C. HEITZMAN, of New York, made some remarks on the use of ergot in different forms of skin disease. His attention had been called to it by a paper written some years ago by Dr. Le Grande Denslow. He used it locally and internally, and had found it of great service in many forms of skin disease unattended by marked structural changes except of a congestive character. In pruritus it had, in several cases, acted like a charm. In certain forms of acne, especially the large pustular form in the beard, it is very useful, and also in both forms of erythema, especially where there is dilatation or new formation of vessels. In a few cases of eczema and in psoriasis it was less effective.

He used Squibb's fluid extract in half drachm doses usually.

DR. J. E. ATKINSON, of Baltimore, read a paper on

SYPHILODERMA PAPULOSUM CIRCINATUM, A RARE FORM OF SYPHILITIC MANIFESTATION.

He said: Although all syphilographers describe the large, flat, papular syphiloderm, together with many of its peculiarities, sufficient attention has but seldom been given to a form of eruption that always has this syphiloderm as a starting-point. This may be, with propriety, designated as the circinate papular syphiloderm. Its claim to special attention consists in its tendency to develop out of the large, flat, papular eruption by a depression in its centre and a peripheral extension of its limits. In the course of this centrifugal growth, the depressed central portion returns to the normal limits of elevation of the skin, while the raised margin forms a narrow, sharply defined, continuous, encircling boundary, whose surface becomes the seat of a rather scanty desquamation. Occasionally, when the desquamation is very copious, the epidermis may be thrown off down to the very lowest layers of the rete mucosum, and the surface of the lesion will then be moist, lightly exuding, and shortly afterward a thin, serous or brownish crust is formed, which soon dries and falls off, leaving a pigmented surface that slowly returns to its natural condition. With the unelevated centre and the narrow circumscribing border, the lesion may attain the size even of a half-dollar, and altogether loose all resemblance to a papular eruption, more nearly resembling severe tinea circinata. The eruption is sometimes accompanied by itching. The patch by irregular extension slowly becomes less circular in outline, and when several coalesce, curious figures are formed. This eruption belongs to the secondary period of syphilis, from about the third month to the eighteenth month; it affects both sexes, and is frequently located on the back, breast, head, neck, and extremities, though in mild cases a few circles upon the face may represent the entire eruption. A history of syphilitic infection will usually dispel doubt as to the nature of the eruption, the clinical characters of which resemble those of tinea circinata, psoriasis, erythema multiforme, and the late tertiary papulo-tubercular and tubercular eruptions; from the latter it differs in always starting from a single lesion, while the circular patches of late syphilis represent the peculiar tendency of the disease to group its lesions in a definite manner.

REPORT OF THE COMMITTEE ON STATISTICS.

DR. JAS. C. WHITE, Chairman of the Committee on Statistics, presented a carefully elaborated report in which the statistics of the Association for the last five years were communicated, giving a total of 58,617 cases of cutaneous disease. The report received from the different districts represented in the Society, Boston, New York, Philadelphia, Baltimore, St. Louis, and Canada, showed a total of 11,514 cases observed during the last year by competent men, among these were: eczema 3241, urticaria 347, pityriasis rubra 8 (all from New York); lichen 39, purigo 2, acne 664, impetigo 95, pemphigus 21, purpura hemorrhagica 39, purpura sim-

plex 8, syphilodermata 1544, pruritus 212, scabies 247, lepra anæsthetica 1, etc.

There being no discussion upon this report DR. WHITE then related

AN EXPERIENCE IN SKIN DISEASE.

After treating a case of warts upon the hands for some time, he was induced to try a combination of salicylic acid, cannabis Indica, and collodion, which was very successful. He had used it several times since with equally good results. The proportions were about ten grains of the extract of cannabis Indica, and thirty grains of the acid, to an ounce of collodion. In fifty cases he had never seen it fail; it should be applied daily for three or four days.

DR. HARDAWAY recommended electrolysis, which he uses with good results, piercing the base of the papillary growth with a needle.

A CASE OF PELLAGRA.

DR. SHERWOOD forwarded a communication to the Society detailing the clinical history of a case of *pellagra* in an Italian sailor treated at the Long Island College Hospital. The eruption was of an erythematous appearance, and came out first on the forehead and extended over the face, hands, and body, and was accompanied by suppurating cervical glands and great depression of spirits. The temperature at times went as high as 105½°. The case is still under treatment.

SEPTEMBER IST.—THIRD DAY.

The closing session was devoted to the examination of a number of microscopic preparations exhibited by Dr. C. Heitzman and by Dr. A. Robinson.

At the business session three new members were elected, Dr. H.W. Stellwagen, of Philadelphia, and Drs. P. A. Morgan and W. T. Alexander, of New York City.

The nominating committee presented its report, and the following were unanimously elected

OFFICERS FOR THE ENSUING YEAR:

President, R. W. TAYLOR, M.D., of New York.

Vice-Presidents, I. E. ATKINSON, M. D., of Baltimore, and A. R. ROBINSON, M.D., of New York.

Secretary, A. VAN HARLINGEN, M.D., of Philadelphia.

Treasurer, GEORGE H. ROHÉ, M.D., of Baltimore.

It was decided to hold the next annual meeting at *Lake George* on the Wednesday nearest the first of September and the two following days.

The Association then adjourned.

CORRESPONDENCE.

STUDIES AND EXPERIMENTS WITH SEPTICÆMIA IN THE LABORATORY AT BERLIN.

PARIS, August 18, 1882.

WHOEVER would imagine for a moment that the subject of tuberculosis, wide as it is, was the only one pursued at the mycological laboratory at Berlin, would make a very great mistake. The truth is, the discovery of the bacillus tuberculosis was only the crown and culmination—and a fitting one it was—to a long series of investigations in a very much wider field. Some of these investigations, as those connected with milzbrand, having led to the most important conclusions, are well and widely known, but there are many others, some settled, some still in prosecution, the results of which have not yet received the dissemination to which they are entitled. Some of them were published last year in great detail in the *Mittheilungen aus dem Kaiserlichen Gesundheits-Amt*, by the director Dr. Struck, a volume which every worker with micro-organisms should possess and thoroughly peruse, and some have been published in the various medical journals; but very few, if all of them, have received that degree of recognition with us, at least, which their value demands in view of the recent discoveries. I may be excused, therefore, for attempting to finish from my notes the report begun in my last of some other studies allied to, but in a sense alien from, the question of tuberculosis. It is my humble opinion that considerable time will elapse before we shall have any very important additional contributions to the subject of tuberculosis, for it appears to me that Koch has done his work about as Harvey did his before him, in such a way, that is, as not to have left very much room for subsequent disclosures. Harvey took twenty years, by the way, and Koch two, which is about the equivalent in our times, after making his discovery, before he published it at all, so that there is as little fear on the part of those few who are competent to give an opinion of any refutation of his views. It is amusing to read the comments in this direction, I may put it here in parenthesis, by the *litterateurs* in our profession, which are about as destructive to the peace of mind of the workers in the laboratory as the presence would be of a man in the street outside who was posing himself before the public and diverting them by balancing long straws across the bridge of his nose.

But neither their comments nor my criticism savor of science in the least, and I proceed with my report, in which I propose to confine myself simply to a narration of experiments which were made before my eyes, and some of which I was kindly permitted to repeat myself.

And first, of septicæmia, which ranks in practical interest only next to tuberculosis. It was contended by Darwin that this condition could be superinduced in more and more virulent form with every re-inoculation, that is, that less and less infecting material needed to be used to produce the same results by inoculating from animals successively killed. This view seemed to be in accord with, or in support of, a doctrine published by Nägeli, to the effect that bacteria could be changed from one form to another by changing their surrounding media, and was hailed with delight by the supporters of Weymuth, who maintained that the innocent bacteria found in such numbers in feces could, under certain circumstances, be endowed with such properties as to produce various diseases, as typhus or typhoid fevers. Buchner's claims, too, of the transformation of the innocent bacillus of hay into the malignant bacillus of anthrax was in accord with this view. Now the teaching of the Koch school is diametrically opposed to any such mutability. That is, it is not contended that any transformation is impossible, because, as I have said before, nothing is accepted here on mere theoretical grounds, but it is proven of these particular forms that no such change does occur, and that the erroneous conclusion is due to impurification (*verunreinigung*) in the experiment. When the proper precautions are taken in the process of sterilization to prevent the possible admixture of other micro-organisms, the introduction of one kind always produces in the same animal the same results. So far as the conclusions of Darwin are concerned, there is only one virulent result, and that is death, and this result is obtained whether there is introduced a whole drop containing the micro-organisms or only the infinitesimal fraction of a drop. Full evidence is manifested in one or two generations, and later cultivations do not increase it.

The most interesting conclusions to be drawn from the experiments in Berlin point to the fact that "septicæmia" is only a general term which includes a whole array of morbid processes, and this is very well illustrated by the injection into the subcutaneous tissue

of the so-called "*vibriones septiques*" of Pasteur. Here it has been found that these bacilli, to produce their effects, must be introduced below the whole depth of the skin, that is, by hypodermic injections, and that inoculation or surface abrasion will rarely suffice. The effect, then, is first, an œdematous infiltration of the tissue at the point of injection, and an extension of the inflammation from this point to the deeper structures. The blood of the heart, for instance, does not contain these bacilli at first, unless accidentally admitted in the examination of it, but later, some time after the death of the animal, abounds in them. Here then is a bacillus which, so far from being killed by decomposition, actually increases under it for a time, a bacillus which is entirely different from the common bacterium of decomposition. Koch has given the name of "malignant œdema" to this condition, a term which describes its character much better than septicæmia. Gaffky, one of the best of the *mitarbeiters* at the laboratory, after many futile trials, at last discovered that the inside of a cooked potato was about the best culture soil for this bacillus, which readily grows in it, and thus offers a depot whence to extract it for further experimentation.

A particle taken from a second potato, that is a second generation, introduced under the skin of guinea-pig, kills it on the next day with all the customary signs of malignant œdema. This bacillus abounds in the soil, and is derived at any time from the earth of the garden.

Thus different and highly distinct forms of micro-organisms are now in the laboratory ready for use at any time, the inoculation of any of which will produce a form or variety of septicæmia. One is that of the malignant œdema just described, one is the most extremely fine bacillus, the finest of all hitherto described, which Koch worked out in his experiments with "*wundinfection*," called the "mouse septicæmia," and the third is the large oval micrococcus, called the "rabbit septicæmia;" either of these latter two being transmissible to either animal, and to many others.

After very many experiments the proper culture substance has been found for each of them, and continued generators are constantly kept on hand in the sterilized test-tubes so often mentioned. It is easy to see that these forms, at least, do not undergo any change whatever, and that when apparent changes occur, the phenomena is due to admixture of other forms, in other words, to an impurification. After hundreds of observations, with the avoidance of every possible source of error, Gaffky came to the conclusion that the "pathogenic micro-organisms, which were the subject of study, are produced only by themselves and only produce themselves."

It was only by means of the solid culture substance that pure so-called central observations could be made. A fragment is picked up from the surface of the gelatine slide from time to time and examined under the microscope, when any admixture of foreign micro-organisms is seen at once. Just so soon as the introduction into an animal of a fragment of gelatine thus used as a culture substance fails to give the expected result, it is known that an impurification has nevertheless occurred, and the simplest examination by the microscope reveals the cause of the failure at once.

I have already intimated that very various kinds of culture substances are in use. What is a favorable soil for one is not necessarily a favorable soil for another micro-organism. Indeed, some varieties become sterile in certain soils and die out, and there is no knowing in any way what is the best soil except by experiment. For this extremely minute bacillus of the "mouse septicæmia," for instance, Koch tried various culture soils, and at last found that he could grow it in a composition of gelatine with the aqueous humor of the eye of the ox. But the growth was very feeble, and successive inoculations or cultivations upon new beds of the same soil uncertain. Finally, Löffler, another skilful mitarbeiter worked up a composition of infusion of meal with peptone one per ct., and common salt 0.6 per ct., the whole rendered very faintly alkaline with sodium phosphate, which was a most luxuriant culture substance for the *Mäuscher septicæmia*. It is perfectly clear and transparent, and the bacilli develop in it in colonies visible as opacities upon its surface. Generations of these bacilli have been grown in this soil now for nearly two years, and the growth is as fresh and virulent as ever. Two days before I left Berlin I took my first lesson with this bacillus. I was instructed to fix the mouse, as I have described before, in a glass jar, to draw out the tail, to clip off a few hairs at its root, to make a minute incision, a little skin pocket, and to introduce into it by means of the platinum point previously *ausgeglüht*, a minimal, scarcely perceptible, quantity of the gelatine, all of which was done, when I was informed that the mouse would die, with mathematical certainty, in from forty to seventy-two hours, and so it did in forty-eight. A mouse ill with septicæmia acts very much like a man under the same affliction.

Another experiment was to produce erysipelas in the ears of a rabbit by the introduction of this same bacillus into a skin pocket on the inner surface of one ear. The redness begins on the first day, increases on the second, with swelling and opacity to light, when the ear falls by its own weight, and makes a striking contrast with the sound ear. On the third day the erysipelas reaches the base of the ear, on the fourth it begins to invade the sound ear, subsiding already in the affected ear, and in the course of a week or ten days is followed by a distinct desquamation, just as is seen in ordinary erysipelas. But the ordinary erysipelas of man is not due to this bacillus. The cause of ordinary erysipelas is not a bacillus at all, but a micrococcus which has also been thoroughly worked out, and is handsomely pictured in the photographic tables of the "*Mittheilungen*." But I may not take up too much space with the narration of known facts, as the only excuse I have for writing so much away from the field is the fact that the sounds of the fight, if I may use so noisy a word in description of such quiet work, keeps still ringing in my ears.

Whatever I have written, anyhow, has been rather with a view to secure credence and recognition in my country for work which when published only in its results seems to many too strange to be true. There are those with us who are thoroughly prepared for these results; who have followed up the links for the last twenty years, beginning, I may say, with Villemin, from obscurity into light. To them there is nothing strange or new in all that I have said. But there are also many others who have looked upon these labors with an air of incredulity rather than credence from the start, and have, hence, not taken time to trace up the steps which gradually led to the main disclosures. To them the results are something like a shock; and it is only by acquaintance with the methods of work, with the patient, persistent—I had almost said painful—processes which have been going on for years that the results reached at last can be believed to be true. They have the right view in the opinion of the real connoisseurs over here, who look upon them as constituting the most brilliant contribution in the history of medicine since the day of the discovery of the circulation of the blood.

J. T. W.

THE GUITEAU AUTOPSY.

To the Editor of THE MEDICAL NEWS.

DEAR SIR: Advantage is taken of the publication of the reports of the microscopical examination of the brain, and of the measurements of the skull of Guiteau,

to reply to some strictures which have been made upon the official report of the autopsy.

1. The omission therefrom of the very important matter of these measurements has been regarded as inexcusable; they were not taken, however, until after the skull had been cleaned, too late to appear in the report. The greater accuracy secured in this way justified the postponement.

2. The statement in the report that "there was a slight flattened elevation of the corresponding internal surface of the calvaria," denied by some, has since been repeatedly verified.

3. It has been stated that the brain would have been found to weigh more than was reported, had the scales been more delicate. The scales used weighed to the half ounce; as far as known, no objection was made at the time to the weight as taken; had there been, there were scales of unquestionable accuracy accessible within the hour.

4. It has been objected that the section of the great bloodvessels of the thorax before the removal of the brain was the cause of the anæmia of the latter. The conclusion is a *non sequitur*.

To save time (a very important point in the Guiteau autopsy), it is the habit of some, myself among the number, to open and examine, as far as possible, the cavities of the trunk, while an assistant is doing the rather tedious work of opening the skull. Experience has shown that such a procedure is not necessarily followed by anæmia of the brain; on the contrary, congestion is often found. There are many such instances recorded in my notes.

Virchow, than whom there is no higher authority, reports, in his work on post-mortem examinations, the details of four medico-legal cases. In two of the four he examined the thorax and abdomen before opening the head. In one of these (translation by Dr. Smith, 1880, p. 99 *et seq.*), he found the dura mater copiously supplied with blood, the veins of the pia mater very large and much distended with dark blood, on section of the hemispheres the veins were much distended, and large drops of blood exuded from the cut surface; the cerebellum presented a similar appearance, the arteries at the base of the brain and sinuses at the base of the skull were full of dark blood. The adjectives are his own. In the second case (p. 103) fluid blood was found in the heart and large vessels of the thorax and neck; yet, on opening the head, fluid blood also was found in the longitudinal sinus, the pia mater showed venous networks everywhere, and the choroid plexus was congested. The hemispheres, however, were "remarkably pale." He does not explain this paleness on the theory of drainage, but (p. 115) considers it of pathological importance.

Wilks and Moxon, in their *Pathological Anatomy* (1875, p. 202), admit that though the head may be opened after the examination of the trunk cavities, the brain and membranes may be found "very full of blood," even though the person may have been dead only a short time. They add, in italics, the accepted opinion, that the fulness of the vessels of the brain is of no pathological significance whatever, so far as disease of the brain is concerned.

That in the Guiteau brain, the anæmia may have been partly due to drainage, is not denied; but such drainage probably took place, if at all, mainly during the three to four hours interval between the removal of the brain from the skull and the incision into it. In this connection, the hypostatic fulness of the vessels of the pia mater noted in the report may be recalled.

5. It has been further objected that the drainage of the brain diminished its proper weight. The highest authority in the weighing of the human brain is probably Broca. In his *Instructions Générales*, etc. (Paris, 1879, p. 18), he directs that after removing the brain it should be carefully placed upon a table for a short time so that the excess of fluids may run off. After it has been sufficiently drained (*convenablement égoutté*), it should be weighed.

It may be added that the circumstances under which the autopsy and report were made, will explain some omissions and commissions which were not *en regle*.

Truly yours,

D. S. LAMB.

ARMY MEDICAL MUSEUM, WASHINGTON,
September 5, 1882.

NEWS ITEMS.

VIENNA.

(*From our Special Correspondent.*)

OBSTETRICAL OPERATIVE INSTITUTE OF THE VIENNA MEDICAL FACULTY.—The creation of an operative school in obstetrics, for the exclusive benefit of Austrian practitioners of medicine, must be of great interest to all physicians.

For a long number of years, the resident physicians of the three large hospitals of Vienna have been petitioning the ministry of education for means to gain practical knowledge of obstetrics. They claimed that the colossal material was utilized by Americans, Englishmen, Russians, and foreigners generally, while native students were treated, for pecuniary reasons, with marked injustice. In 1879, a very spirited remonstrance was made, and petitions were forwarded to the Royal and Imperial Ministry of Education.

After an interval of almost three years, the ministry has established the following provisional statute:

"With the 1st September, 1882, an Obstetrical Operative Institute, in the Medical Faculty of the University of Vienna, will enter upon existence, whose provisional statutes, approved by the ministry of education, and designed for acquiring knowledge and instruction, are the following:

1. The object of the institute is the cultivation of a larger number of experienced obstetricians.

2. The conductors of the institute are the three Professors of Obstetrics in the University of Vienna.

3. Every native of the lands, represented in the Reichsrath, is entitled to entrance into the institute upon the exhibition of his acquired diploma in medicine surgery, and obstetrics.

4. The length of the course is six months; the first course begins upon September 1st, and ends upon the last day of February; the second begins with the 1st of March, and ends upon the last of August. Under exceptional circumstances, the time of work can be extended to the attendant physicians for one year.

5. In every course, according to the rule, only nine attendant physicians will be accepted. Of these, three will be appointed to each clinic. The appointment of more than four attendants to each clinic is not allowable.

6. Hospital physicians, still serving, or just going out of service, must announce their candidacy to the hospital director concerned, who will forward the applications to the college of professors. Applicants, who stood in no service-relation to a hospital, will announce their candidacy with evidence of former employment, directly to the 'Decanat.'

7. The college of professors will decide upon all appointments, yet they must prefer, before all others, the competing hospital physicians.

8. The attendant physicians will be subordinate to the professors and their proxies; will have, in the clinics, subordinate service under supervision of the professor, especially inspection; are entitled, in addition, to assist

at all operations, and according to their proficiency, will be allowed to undertake obstetric operations, in viva, under the supervision of the professors or their proxies. In order to carry this plan out, instruction, at the beginning of each course, will be given to the attendants.

9. After completion of the course, the attendant physicians, upon desire, can obtain a certificate, written by the professor, and certified by the Decanat."

The appearance of this statute has given rise to the liveliest comment in Vienna medical circles. The native physicians are delighted with their partial victory; the assistants, who have reaped a golden harvest at the hands of foreigners, chiefly Americans, are highly incensed at the prospect of loss of the large sums foreign physicians leave in their possession; the Americans, Englishmen, Germans, Russians, and Greeks, are completing their courses with regret. Notwithstanding the enormous number of births occurring yearly in the "Allgemeine Krankenhaus," numbering more than 10,000, the number of students from every section of the globe is proportionate; although the obstetrical institute is only a provisional arrangement, it would be well for men, seeking training in obstetrics and gynecology, to think well before coming to Vienna for the ensuing winter.

Yellow Fever.—The yellow fever news from Brownsville, Texas, during the week, has consisted of bulletins indicating the daily occurrence of from fifty to one hundred cases with comparatively few deaths. The relative mortality indicates the disease as of an exceptionally mild type, or, which is presumably the correct view, that all cases of fever, including the autumnal remittents prevalent in that locality, are included in the reports. Everything is being done by the general government, through the agency of the Marine-Hospital Service, to care for the sick and prevent the spread of the disease. Hospitals have been established by Surgeon Murray of that service, and a sanitary cordon has been drawn across the country from Laredo to Corpus Christi, to prevent the escape of fugitives from the infected district. The country is said to be low, sandy, free from timber, and easily guarded.

The invasion of Brownsville from Mexico is well established, but the origin of the disease in Pensacola appears enveloped in obscurity. During the summer several infected vessels were sent from the quarantine at this port to Ship Island Refuge Station. Two Italian barques arrived recently, each having three cases on board; but the origin of the excitement—although probably not of the disease—among the people was the occurrence of a death and two cases of sickness on board a Spanish ship, the "Saleta," on the 10th of August. The fatal case was seen by a medical man an hour or two before the patient died. The doctor was not positive in his diagnosis, but as a precautionary measure the Saleta was towed to sea within a few hours. Dr. Carrington, in the Pensacola *Advance-Gazette*, gave the sanitary history of the Saleta showing that forty-five days had elapsed since she left an infected port, and that in the meantime she had been unloaded and fumigated. Dr. Jerome Cochran, of Alabama, made an official investigation into the condition of Pensacola, reviewed the Saleta affair, and concluded that there were no just grounds for alarm. But some days afterwards (August 28th), the City Board made formal announcement of the existence of yellow fever. This created considerable alarm in the neighboring cities. The Louisiana State Board prohibited the railway company from running trains from the infected city within the boundary of their State. Montgomery and Mobile are also stated to have quarantined against Pensacola.

When one considers the thousands who suffered by the introduction of a single case into New Orleans in 1878, the action of the Louisiana State Board is manifestly justifiable in default of provision for preventing the spread of the disease during commercial intercourse, but experience gathered since then has shown that safety may be attained without a recourse to non-intercourse. Recently when three or four cases existed in New Orleans the health authorities of Mississippi, instead of quarantining against the city, permitted free intercourse under the inspection system of the National Board of Health.

We have not heard that any call has been made on the National Board by State or local boards to assume control of the passenger and other traffic between Pensacola and its neighbors on the lines of rail, but this is no doubt because the commercial interests involved are so small as compared with those of New Orleans.

The able and energetic Health Officer of Pensacola, Dr. J. C. Whiting, took immediate steps to localize and stamp out the disease and to prevent panic. His latest telegram, dated September 3d, shows what success has so far attended his efforts: "No new cases of fever in the past two days. One death Friday. Have had in all nineteen cases and five deaths. Seven sick now, two of whom will likely die; others improving. No fever in shipping or in quarantine. Total mortality for the week, seven—five from yellow fever. No excitement and people very hopeful." We shall look with much interest for the ultimate results of the operations of the Pensacola City Board.

National Medical and Sanitary Exhibition.—A convention of Commissioners appointed by the National and various State Boards of Health of the United States, together with Commissioners appointed by the American Public Health Association, will assemble at Indianapolis, Ind., on Wednesday, October 18, 1882, at 9 o'clock A.M., to take into consideration the question as to the best course to be pursued which may result in holding a National Medical and Sanitary Exhibition in the year 1883.

Additional Honor to Prof. Langenbeck.—Prof. Langenbeck has received from his government the highest attainable distinction, in being designated as Active Privy Councillor, with the prefix "Excellency." On his departure from Berlin he will receive a handsomely engrossed address on the part of the medical students.

Prof. Graham Bell, the inventor of the telephone, received the honorary degree of Doctor of Medicine, at the Tercenary Celebration of the University of Würzburg.

Professor Esmarch on the Case of President Garfield.—Prof. Esmarch delivered a lecture on the treatment of President Garfield's wound before the Physiological Society of Kiel, in February last. This lecture he has now printed and circulated, and it is impossible that the views of a surgeon so accomplished and so worthy of expressing an opinion on such a case should not be canvassed. The facts of the case are first of all clearly and fairly stated from Dr. Bliss's own published accounts of the progress of the case and of the post-mortem examination. Prof. Esmarch's conclusions are (1) that the wound was not in itself absolutely fatal; (2) that the bullet was not the cause of the septic suppuration in the wound which led to the fatal result; (3) that the cause of the septic suppuration was introduced from without, and that as contributing directly or indirectly to this were the following

errors in the treatment—the repeated probing and examination of the wound with instruments and fingers not rendered aseptic, the failure to dress the wound aseptically, the syringing out of the wound with fluids not sufficiently antiseptic, and a failure to give a complete vent to the "bagging" pus; (4) there was no true pyæmia, but only metastatic inflammation of the parotid gland; (5) the cause of death was hemorrhage, moderate in amount, but occurring in one whose strength was undermined by septic fever, decubitus, bronchial catarrh, and hypostatic pneumonia; (6) although the splenic artery may have been injured primarily by the bullet, or by a splinter of bone, this would not have led to the formation of a false aneurism except for the establishment of putrid suppuration. In conclusion, Prof. Esmarch refers to the popular superstition that the bullet is the cause of all danger in a gunshot wound, and that to extract the bullet should be the chief aim of the surgeon. He asserts that most of the secondary dangers arise rather from the fingers of those who explore the wound, and that the American surgeons committed the error of doing too much rather than of doing too little, as they have been freely accused of at home. Finally, he surmises that if no search had been made for the ball, and the wound had been dressed aseptically, the unfortunate patient would have been alive now. Valuable as is Prof. Esmarch's opinion on such a point, we regret that this lecture has been published, at any rate so soon. It would not have lost in value by being kept back until the acrimonious discussion on the conduct of the attending surgeons had died out on the other side of the Atlantic. It is proverbially easy to be wise after the event, and it is an ungracious task to criticise adversely the conduct of men who, under very trying circumstances, were suddenly called upon to act in a grave emergency. We are willing to admit that mistakes may have been committed, but it is a case in which the golden rule is eminently applicable: "Let him that is without sin first cast a stone."—*Lancet*, August 19, 1882.

COFFEE AS A DISINFECTANT.—M. BAIBIER (*France Méd.*) finds powdered roasted coffee an excellent deodorizer and disinfectant. The coffee is simply scattered over and about the place or thing requiring disinfection. He has used it in autopsies and on bodies a stinking mass of putrefaction, also as a dressing to foul virulent ulcers.—*Canadian Journal of Medical Science*, September, 1882.

THE REST-CURE IN THE TREATMENT OF NEURASTHENIA.—In opening the discussion on the treatment of hysteria, in the medical section at the recent meeting of the British Medical Association, Dr. Playfair spoke in the highest terms of the value of the methods of treatment of this disease introduced by Dr. S. Weir Mitchell; Dr. Albutt, and other members of the association, confirmed the estimate expressed by Dr. Playfair of this method.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending August 26, 1882, indicate that diarrhœa, remittent fever, influenza, and inflammation of the bowels have considerabty increased, that neuralgia, typhoid fever, and cholera infantum have increased, and that erysipelas has decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending August 26, and since, at 15 places, scarlet fever at 8 places, measles at 8 places, and small-pox at 5 places, as follows: at Westwood, Kalkaska County (3 new cases), August 21; in Walker Township, Kent County, and Orange Township, Ionia County, August 21; at Grand Rapids (1 case, convalescent), August 28; and Sebewa Township, Ionia County (10 cases), August 29.

For the week ending August 26, the Sanitary Inspector reports 2 cases of whooping-cough among the immigrants arriving at Port Huron.

IN proposing the toast, "Prosperity of the British Medical Association," at the dinner in the recent meeting, SIR JAMES PAGET used the following happy expression, "Do not let our disputes be very noisy on the scientific side. Remember always that it is only through clear and undisturbed waters that you can see what lies at the bottom. In storms of controversy, there is nothing to be found but the billow that moves to mischief, and the foam that disappears."

THE VALUE OF ISOLATION IN OBSTETRIC HOSPITALS.—From the statistical report on the deliveries in Lariboisière Hospital, published by DR. SIREDY, we learn that in the first period where no attempt was made at separation of recently confined women suffering from various diseases from those in whom the process was normal, one out of every fifteen died. In the second period isolation of such cases brought the mortality down to one in forty-three. In the third period, in which personal disinfection and means to prevent the transmission of contagion were carried out, the puerperal mortality fell to one in fifty-six, and in simple cases one in eighty-eight. In the second year, when the antiseptic precautions reached a higher degree of perfection, the puerperal mortality was reduced to one in ninety-six, and for simple cases one in one hundred and fifty-three.—*L' Union Méd.*, August 15, 1882.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 28 TO SEPTEMBER 4, 1882.

BARROWS, CHAS. C., *Assistant Surgeon.*—Assigned to duty at Fort Grant, Arizona Territory.—*S. O. 130, Department of Arizona, August 21, 1882.*

SMITH, A. K., *Major and Surgeon.*—Granted leave of absence for one month on surgeon's certificate of disability.—*S. O. 131, Department of Arizona, August 22, 1882.*

SKINNER, J. O., *Captain and Assistant Surgeon.*—To take charge of Medical Director's Office Department of Arizona.—*S. O. 131, Department of Arizona, August 22, 1882.*

EGAN, P. R., *Assistant Surgeon.*—Assigned to duty at Fort Bowie, Arizona Territory.—*S. O. 134, Department of Arizona, August 25, 1882.*

WAKEMAN, W. J., *First Lieutenant and Assistant Surgeon.*—Now at Omaha, Nebraska, to report to the Commanding Officer Fort D. A. Russell, Wyoming, for duty.—*S. O. 88, Department of the Platte, August 25, 1882.*

HUBBARD, V. B., *Major and Surgeon.*—Assigned to duty at Fort Wingate, N. M.—*S. O. 172, Department of Missouri, August 28, 1882.*

BROWN, J. B., *Lieutenant-Colonel and Surgeon.*—Granted leave of absence for six months on surgeon's certificate of disability.—*S. O. 200, A. G. O., August 29, 1882.*

Corrigendum.—In our issue of August 19, page 201, 2d column, 7th line, *for* "This view of the possibility and transmissibilty of the puerperal fever poison," *read* "This view of the portability and transmissibility of the puerperal fever poison."

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLI. SATURDAY, SEPTEMBER 16, 1882. NO. 12.

ORIGINAL LECTURES.

PULMONARY APOPLEXY.

A Clinical Lecture delivered at Rush Medical College, Chicago.

BY E. FLETCHER INGALS, M.D.

(Reported by G. B. NICHOLS.)

GENTLEMEN: P. R., the patient whom I present this morning, is forty-four years of age. He has of late been employed as driver on a street car.

He tells us that six weeks ago he was taken sick after exposure for nearly two days to wet and cold. He had been thoroughly drenched with rain and had worn the same wet clothing the following day and until he retired at two o'clock at night. Two hours after going to bed he was awakened by "terrible pain" in the right side, near the nipple. He was very chilly; felt sick at his stomach, and found his face covered with blood, which came from his lung.

He continued spitting clear blood for about twenty hours, raising in all about a pint; for two days later some blood was expectorated at intervals. Subsequently he was very weak, had night sweats, and for four weeks was unable to lie down. He does not know whether he had fever or not.

Upon inquiry into his previous history, we learn that he had been troubled with cough for four months before this attack, and that for twelve weeks it had been very annoying, though not sufficient to interfere with his work. He cannot recollect having been sick at any time previous during his life excepting once, twenty-two years ago, when he was laid up with rheumatism for fifteen weeks. His parents and grandparents were long-lived, attaining an average age of about eighty years. We learn that for six months previous to this attack the patient has been working about eighteen hours every day. Since this attack he has lost some flesh.

At present we find the skin moist, cool, and of a natural color; the pulse 124 per minute, with a peculiar quick and hard stroke, which becomes harder and more decided by elevating the arm. The frequent interruptions in his conversation are due to dyspnœa, which he tells us has troubled him for nine weeks. He has very little cough and no expectoration. The tongue is clean, excepting a thin yellowish coating at the base. The pharynx is natural. The appetite has been good throughout his sickness; the bowels are regular, and the urine normal as far as appearances go.

Upon inspecting the patient we observe marked pulsation in the carotid and subclavian arteries, with epigastric pulsations. In the præcordial region the impulse of the heart is seen over an area of at least four inches in diameter.

The vocal fremitus is alike on both sides over the upper part of the chest, but it is not felt over the lower part of the right side.

On percussion of the upper part of the chest, both sides are alike. Over the præcordia the area of dulness is larger than usual, indicating considerable dilatation of the heart; but this organ is not displaced. On the right side, in front, the pulmonary resonance extends down to the sixth rib, its normal position.

Posteriorly over the scapula and in the interscapular regions, the resonance is alike on both sides. In the lower part of the infrascapular region, on the left side, we obtain dulness. On the right side, in the infrascapular region, there is complete flatness.

On auscultation over the anterior portion of the chest, at the upper part, I find feeble respiration on the right side and normal respiration on the left. Over the lower portion of the left side, both anteriorly and posteriorly, there are crepitant and subcrepitant râles. Over the lower portion of the right side I find a feeble respiratory murmur, extending down to the sixth rib in front, and following the course of that rib behind; below this I do not hear the respiratory murmur at all; but I get fine crepitant sounds, less numerous than on the left side and nearer to the surface. These are probably friction sounds.

The vocal resonance is normal over the left lung and over the upper part of the right. It is very distinct over the whole lower lobe of the right lung, but it is not uniform, there being spots where it is less intense than over the surrounding tissue. There are no tubular sounds.

In listening over the carotid and subclavian arteries, I hear murmurs on both sides, which result from some cardiac lesion. Over the heart a murmur may be heard at the apex, which grows more and more intense as the stethoscope is carried toward the base, until the articulation of the fifth costal cartilage with the sternum is reached. At this point it is louder than anywhere else. The murmur is very distinct in the second intercostal space on the right side and over the second rib and beneath the clavicle on the left side.

With my finger on the carotid pulse, I find that it occurs synchronously with the diastole of the heart.

This case presents an unusual group of signs. The feeble respiratory murmur over the upper part of the right side indicates that the upper lobe of this lung has in some way been involved, and if we were to examine the upper part of the chest alone, this sign, together with the hæmoptysis, would be taken as conclusive evidence of incipient phthisis; but his hereditary and personal history, together with the signs over other parts of the chest, and the absence of cough, render such a diagnosis untenable.

The flatness over the lower part of the right lung would lead us at once to suspect pleuritic effusion, but the exaggerated vocal resonance and the slight cripitating friction sounds over the same region, together with the fact that the upper line of flatness does not change with changes in the position of the patient's body, are sufficient proof that there is not, at present, a collection of fluid in the pleural sac.

The history of the origin of this attack, and the opinion of the most excellent physician who attended him at that time, ought, perhaps, to satisfy us with the original diagnosis of pneumonia. Yet this does not cover the whole case. No doubt the lung was inflamed at first, but there must have been something more than an ordinary inflammation to account for the profuse hæmoptysis, and the marked signs which we find to-day, after six weeks have elapsed.

The crepitant râles which we hear to-day in the left lung might be taken as a sign of acute inflammation of that organ, but the absence of fever, and the patient's general condition, indicate that an acute pneumonia cannot be present.

We have found in this case certain signs which, considered separately, might be taken as conclusive evidence of phthisis, pleurisy, or pneumonia, but which in

the case before us do not point directly to any of these diseases.

Were we obliged to stop here, in our examination, it would be impossible to satisfactorily account for the condition of this man's lungs, but the cardiac lesions which we have discovered, *i.e.*, enlargement of the organ, with aortic insufficiency, throw a flood of light upon the case.

When we first questioned this patient, he told us that he had never before been sick. We were then at loss to account for the cardiac lesions, but by critical questioning, we at length brought to his recollection a severe attack of rheumatism, which occurred twenty-two years ago. However, he persists in the statement that subsequently to that time he had never been sick, nor experienced any difficulty in respiration until within the last few months.

Two interesting questions are suggested by this statement. 1st. Did the rheumatism cause the cardiac disease? and 2d. In case the heart lesion resulted from the rheumatism, how soon thereafter did it appear, and why did it not sooner produce subjective symptoms?

To the first query, I answer, the rheumatism undoubtedly was the cause of the cardiac lesion, for since that time there has been no sickness or accident which would be at all likely to produce such a result, until very recently, and the changes are now much greater than would be found if the affection were of short duration.

To the second question, I answer, that probably if this patient had been examined twenty-one years ago, an aortic obstructive murmur would have been detected, and doubtless the same might have been found at almost any time thereafter.

I often discover cardiac lesions in patients who have not presented a single subjective symptom, and who apply to me for some trifling affection of the bronchial tubes. In such cases I usually find that the apparent cause has antedated the discovery by several years. Such cases present no subjective symptoms, because nature compensates for the lesions by hypertrophy of the heart. In the case before us, there may have been no regurgitation, until the ventricles became much distended, by reason of his excessive work during the last six months, but of this, we cannot be certain.

We may, however, be sure that the lesion was fully compensated for by the hypertrophy, until his long hours of work and short hours of rest weakened the muscular system, so that the evil effects of a crippled heart were manifested by such symptoms as cough and dyspnœa.

The cardiac lesion enables us to understand the cripitant and subscrepitant râles and slight dulness which are found to-day on the left side, as a result of pulmonary œdema; but there must be some other explanation for the signs found over the right lung.

Recurring to the history, we find that after prolonged exposure, and while suffering from a severe cold, the patient was wakened with severe pain in the side and hæmoptysis. From this, and a physical examination of the chest, I conclude that the congestion and swelling of the lining membrane of the air passages, caused by the cold, so interfered with the passage of blood through the pulmonary circuit, that the weakened heart was unable to perform its function. Consequently its action became sluggish and irregular; as a result, clots were formed in the right side, particles of which became detached, and were carried through the pulmonary arteries, until they finally lodged in and occluded the capillaries, the thin walls of which were thus subjected to the same distending force from behind, as the larger arteries. Rupture naturally resulted, the blood diffused itself through the air-cells and bronchioles of the lobules, causing what is termed hemorrhagic infarction, or circumscribed pulmonary apoplexy. The blood which found its way into the larger bronchial tubes was expectorated.

The hemorrhage and the pain were much greater than common in such cases.

Lesions of this kind usually occur in the upper part of the lower lobe of the lung. The hemorrhage is apt to take place from several points, forming, when the blood coagulates, several distinct nodules, varying in size, but seldom larger than a hen's egg, and most of them much smaller. Because of their small size and deep location, they do not usually occasion complete loss of motion and flatness over the affected portion of the lung; but in rare cases the lung tissue itself is lacerated, and a large amount of blood escapes, thus causing diffused pulmonary apoplexy, which is apt to be attended by considerable hemorrhage and severe pain, as in this case.

The laceration of the lung and pressure of blood upon the pleura caused the acute pain at the time of the accident, and eventuated in pneumonia and pleurisy.

As a result of the pleurisy, the whole lung was compressed for a time, and the patient was unable to breathe in the recumbent position, but finally most of the fluid was absorbed, though too late to allow of free expansion of the upper lobe of the lung, hence the feeble respiration in that locality at present. The combined pressure from blood clots and pleuritic effusion with the inflammation of the pulmonary parenchyma, left the lower lobe of the right lung in a state of almost complete consolidation, which still remains.

The prognosis in pulmonary apoplexy depends upon the cause and extent of the lesion, and the previous condition of the patient. When circumscribed pulmonary apoplexy results from cardiac disease, the nodules are usually small, and as the emboli are simply fibrinous clots, the inflammation which follows is not of a destructive character; therefore many of these cases recover, providing the heart lesion is not extensive and the general health has not been impaired. In diffused pulmonary apoplexy, whether resulting from direct injury or rupture of a large infarction, the prognosis is very grave. In most cases death speedily follows, either from shock or hemorrhage; but should the patient survive these, abscess or gangrene of the lung is likely to carry him off in a few days.

In the case before us, the shock, the hemorrhage, and the danger of gangrene have been safely passed, and, were the heart lesions less severe, we might fairly predict several years of life; but here the aortic regurgitation is marked, the heart is considerably dilated, and pulmonary œdema is already present; besides the function of the right lung is very imperfectly performed. Our prognosis, therefore, cannot be very favorable; nevertheless, the patient's general condition is so good, that I expect great improvement for the present, and possibly fairly comfortable existence for a number of months.

I will give this man ten minims of the tincture of digitalis, four times a day, to strengthen his heart, and if this is not sufficient, I will gradually increase the dose to fifteen or twenty minims, providing it does not cause disturbance of the stomach and his kidneys continue to act well. I will also give him three times a day the twenty-fourth of a grain of sulphate of strychnia as a respiratory and cardiac stimulant, and ten minims of the tincture of the chloride of iron, to improve the character of the blood.

His appetite is good, and the kidneys are acting well, so that apart from the treatment indicated, we will only find it necessary to keep the bowels regular. For this purpose I know of no remedy which acts better when cardiac diseases exist than some of the preparations of

euonymus (wahoo). I have generally employed the fluid extract in doses of half a drachm, but it is said that the eclectic preparation, known as euonymine, acts equally well. The dose of the latter is from half a grain to five grains.

ORIGINAL ARTICLES.

IS TUBERCULOSIS A PARASITIC DISEASE?

THIRD PAPER.

BY GEORGE M. STERNBERG, M.D.,
SURGEON, U. S. A.

IN my second paper I reported my failure to find bacilli responding to Koch's color-test in specimens of sputum furnished me by Prof. Hirschfelder as coming from tuberculous patients. I have since found the bacillus described by the method of Ehrlich in the sputum of several phthisical patients.

This method seems to possess decided advantages over that first recommended by Koch, and we learn from the journals that he has himself adopted it.

Whether failure in the first instance was due to the absence of these bacilli from the material examined or to the difficulty of demonstrating them by Koch's method, it is, of course, impossible to say. But as my experiments upon animals inoculated with this material have also been attended with a negative result, it seems fair to assume, as suggested when the examination was made, that the material was not of the right kind.

In the *British Medical Journal* (July 1, 1882, p. 7), I find the following statement in a lecture on the Antiseptic Treatment of Pulmonary Consumption by Burney Yeo, M.D., F.R.C.P. "I have lately had careful search made by very competent workers with the microscope, in the expectoration of patients with advanced phthisis, as well as in sections of typical tuberculous mesenteric glands; but they have not yet succeeded in finding the organisms described by Koch."

It hardly seems probable that these negative results are entirely due to inexperience in the application of Koch's method, as his directions are very explicit and there is no difficulty in following them with precision. But, if all cases of consumption of the lung were tuberculous, which is probably not true, it does not follow that the sputa of phthisical patients comes at all times from the tuberculous portion of the lungs; for these patients as well as others are subject to pneumonia or to bronchial catarrh.

In my first experiments upon rabbits the material was introduced into the subcutaneous connective tissue through a narrow opening in the skin, made with a sharp instrument. The inoculation was made at the side of the neck, and from two to five minims of the viscid sputum was introduced by means of a grooved director or a silver probe.

Experiment No. 1, May 26, 1882.—Three half-grown rabbits were inoculated as above described with the sputa of three patients in the City Hospital, procured for me by Prof. Hirschfelder for these experiments and believed to be from tuberculous patients. On June 2d, one of these rabbits received a second inoculation with tuberculous material from a portion of lung obtained the same day at a post-mortem examination made at the City Hospital. This material was carefully examined by Koch's method with a negative result so far as the presence of the bacillus described by him is concerned.

No noticeable result followed these inoculations, with the exception of the formation of a circumscribed abscess, of small size, at the point of insertion, in one of them. The animals continued to eat well and to grow in size, without losing flesh. On the 2d of July these rabbits were killed and carefully examined. The lungs and other organs appeared perfectly normal, and no evidence of tubercular deposit was found in these, or in the serous membranes.

Experiment No. 2, May 30.—A large full-grown rabbit was inoculated as before, with sputum obtained the same day from Prof. Hirschfelder, and believed to be from a tuberculous patient. An abscess formed at the point of insertion, which was opened June 17th, and the cheesy contents examined by Koch's method, with a negative result, as regards the presence of *Bacillus tuberculosis*.

This animal was killed July 15th, and carefully examined, but no evidence of tubercular deposit in the lungs or elsewhere could be discovered.

July 29. — A fresh specimen of sputum was obtained from Prof. Hirschfelder this day, and carefully examined both by Koch's and by Baumgarten's method. A few bacilli were seen by Baumgarten's method, which possibly respond to the test—failure to stain by methyl violet, after treatment with solution of potash—but the result is not considered satisfactory, as the bacilli referred to appear to have less color than others in the same preparation, because of their smaller diameter, rather than to be entirely without color. The possibility of mistaking the contour of the nuclei of pus-cells for bacilli is more than ever apparent.

August 8. — Received from Prof. Hirschfelder a supply of aniline oil, and a fresh specimen of sputum from a case pronounced undoubtedly tubercular consumption.

By the method of Ehrlich, the presence in this specimen of bacilli, which retain their color when treated with nitric acid after being stained with fuchsin, was clearly demonstrated. This color-test is very definite, and distinguishes clearly these bacilli from other micro-organisms—bacilli and micrococci—also present in the same preparation. The latter are entirely colorless, while the former are deeply stained by the fuchsin. As stated by Koch, this color is still more apparent, when the condensing lens is moved forward, so as to strongly illuminate the field. *Pseudo-bacilli* may also be seen, which, by careful focusing, are resolved into the line of junction of two cells in juxtaposition, or the margins of cell-nuclei.

Having found in the sputum of a tuberculous patient the bacilli described by Koch, the next step seemed to be to ascertain whether, by the same method, similar bacilli might not be demonstrated in non-tuberculous sputa. My own saliva or a small mass of muco-pus coughed up from my lungs—I have a slight bronchial catarrh—did not contain bacilli responding to the color-test.

August 10.—At my request, Prof. Hirschfelder procured for me eight samples of sputum, some from tubercular and some from non-tubercular patients, the diagnosis not being communicated to me, as I desired to ascertain whether my report with reference to the presence of Koch's bacillus would correspond with his diagnosis of the cases. The bacillus was found in three specimens, and Dr. Hirschfelder subsequently informed me that these came from phthisical patients, but that three other specimens, from which I obtained a negative result, were also from cases of the same character, while two were from non-tubercular patients. Having received all of these specimens at once, I only found time to mount one slide of each, while the material was fresh, and consequently do not consider my negative result in the three cases pronounced tubercular as evidence of the absence of the bacillus from these specimens. It is evident, for reasons already given, that repeated examinations would be required to definitely establish the absence of the bacillus, although its presence may be demonstrated by a single preparation.

12th.—Received a specimen of sputum from a case in the post hospital at Angel Island, Cal., diagnosed by Surgeon Brooke, U. S. A., as pulmonary consumption. Four slides were prepared, Ehrlich's method, and the bacillus of Koch was found in all in greater abundance than in specimens previously examined.

14th.—Recieved a specimen of sputum from a patient of my own, a married woman living in the suburbs of San Francisco, whose case was diagnosed by me as consumption several months since. There is evidence of tubercular deposit at the apex of left lung, several hemorrhages have occurred, and a distressing cough in the morning results in the expectoration of a solid, greenish-yellow mass. At my request, this morning expectoration was received in a clean, wide-mouthed bottle, and sent to me at once. Microscopical examination of preparations, stained by Ehrlich's method, demonstrated the presence of Koch's bacilli.

Note.—The following animals have been inoculated with sputum from this and the preceding (Dr. Brooke's) case, viz., four rabbits, one guinea-pig, and a pup six weeks old. The results of these inoculations will be reported in a future communication.

As to the abundance of these bacilli in the specimens of sputum examined, I may say that they are not very abundant. While common forms which are decolorized by the action of nitric acid, are often found in considerable numbers, these deeply-stained bacilli are usually solitary, or, at most, but four or five are seen in a single field. They appear either within, or external to, the pus-cells. It is probable that in the former case they are sometimes only covered by the cells, which are flattened out by the drying and heating process to which the preparation is subjected. Indeed it would be difficult, from a mere inspection, to decide with certainty whether this is the case, or whether they are actually within the cells. The fact that several are sometimes found within a single cell, while those without are commonly solitary, indicates, however, that they are sometimes at least enclosed within the cells, and, therefore, in all probability, developed in this situation. They are most easily seen in fields where the material is spread out very thin, and in which the pus-cells do not overlie each other and have been thoroughly decolorized by the nitric acid bath.

MORPHOLOGY.

Koch describes the bacilli of tuberculosis as follows:

"They are very thin, and from one-fourth to one-half as long as the diameter of a red blood-corpuscle. They may also be longer, sometimes they even reach the length of the full diameter of a blood-corpuscle." (*Berliner klinische Wochenschrift*, No. 15, p. 222, 1882.)

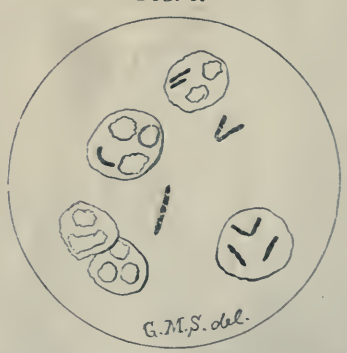
"The tubercle bacilli are at least five times as long as thick, and often much longer in proportion to their thickness" (*l. c.*, p. 223).

"The bacilli may also be examined without staining. In this case it is necessary to have a specimen containing a considerable number; for example, from a gray tubercular nodule from the lung of an inoculated guinea-pig. A little of this material may be mixed with distilled water or blood-serum. . . . The bacilli appear then as very small rods which show only molecular movement, but not the slightest spontaneous movement. Under certain circumstances the bacilli, later, show spores, in the animal body, and, indeed, most of the bacilli have two to four oval spores, which are arranged at equal distances along their length" (*l. c.*, p. 222).

This description answers perfectly for the bacilli seen by me, but scarcely serves to distinguish these from others, which are commonly found in localities which preclude the idea that they are pathogenic, at least not under ordinary circumstances. (See Figs. 2 and 4.)

With my Zeiss' $\frac{1}{18}$ nom. ol. im. objective, I have been able to distinguish the oval spores described by Koch in a few of the rods seen in my preparation. Not infrequently in the longer rods a slight constriction is seen at the middle, and in some cases the rod is bent at an acute angle at this point, as seen in my drawing, Fig. 1. This is no doubt the result of spontaneous fusion, and indicates that this bacillus, like other micro-organisms of its class, multiplies by division as well as by the formation of endogenous spores.

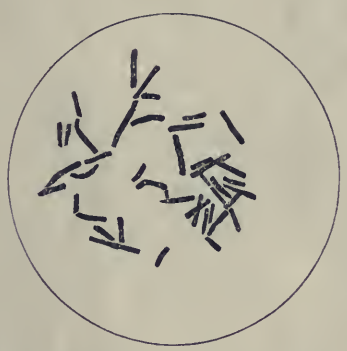
FIG. 1.



The rods are sometimes crescentic in shape, as shown in the pus-corpuscle containing a single one, Fig. 1. My attempts to photograph this bacillus have not been very successful, for the reason that the fuchsin-staining, although very decided optically, is apparently almost transparent for the actinic rays. I have had great difficulty in projecting an image which could be seen and focused on the screen. Moreover, in consequence of the small number to be found in a single field, this mode of illustration would not be satisfactory. I have, however, made several negatives, showing a single bacillus well enough to enable me to measure it and compare it with bacilli from other sources. This comparison shows that they do not present any morphological characters by which they can be distinguished with certainty. The bacilli shown in Fig. 3 resemble them very closely indeed, and, for aught I know, may be identical with them; for when this photograph was made, the color-test was not known.

The circumstances under which the bacilli represented in this figure were found have always made them possess a special interest for me, but, unfortunately, I was only able to verify their presence in

FIG. 2.



the unusual locality in which they were found, and to make photographs of them, as other pressing obligations prevented me from attempting to cultivate them and to experiment with reference to their possible pathogenic properties. They were found in the pericardial sac and in the substance of the heart of a rabbit which died as the result of a subcutaneous injection of contaminated water (No. 5), sent to the biological laboratory of Johns Hopkins University, by Prof. Mallet, of the University of Virginia, for this purpose, in connection with his experimental research (for the National Board of Health) upon drinking-water. I do not know to this day the source of this particular sample of water, but the results following its injection beneath the skin of a rabbit were very pronounced and differed from any previously obtained by me in similar experiments. The animal died within a few days after the injection, and upon post-mortem examination the pericardium was found to be inflamed and covered with fibrinous exudation, while in the substance of the heart there were numerous white-colored collections of a semi-solid material, which, upon microscopic examination, proved to contain the bacilli here figured. The serum contained in the pericardial sac also contained these bacilli in abundance.

FIG. 3.

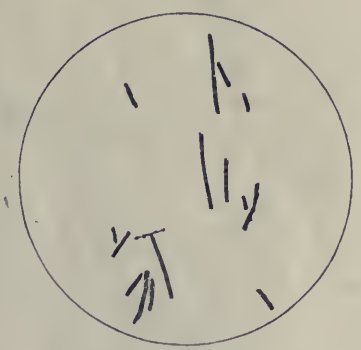


Figure 2 shows bacilli also photographed in Baltimore from normal human saliva.

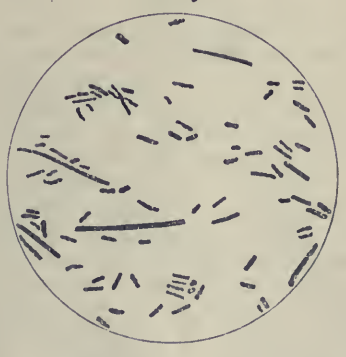
In Figure 4 we have bacilli and other bacterial forms, developed in Koch's staining fluid as stated in my previons paper (THE MEDICAL NEWS, July 22, p. 87). The amplification in this figure is but 500

FIG. 4.

diameters, while in Figures 1, 2, 3, and 5, it is 1000 diameters.

In Figure 5 we have again bacilli, which were

FIG. 5.



found upon a glass slip exposed over swamp-mud (artificial marsh) in my laboratory in New Orleans —summer of 1880. (*Vide* Special Report to Na-

tional Board of Health. *Supplement No. 14 to Nat. Board of Health Bulletin.*)

Figure 6 is from a photo-micrograph of *Bacillus anthracis* made in Baltimore last summer from material obtained by inoculation and culture experiments, from stock which had been in the possession

FIG. 6.

of Dr. Burden-Sanderson for seven years, and was sent by him to Prof. Martin of Johns Hopkins University. (*Vide Philadelphia Medical Times*, June 18, 1881, p. 593.) In this figure rods and isolated spores may be seen, also a long filament containing numerous spores arranged at regular intervals.

It is difficult to represent these micro-organisms by means of wood-cuts exactly as they appear in the photo-micrographs; but these cuts will at least be free from misrepresentation, due to the personal equation of the original observer, as the cuts are all made by the wood engraver, under the direction of the editor of this journal, from photo-micrographs made by myself, with the exception of Fig. 1, which, as already stated, I have drawn from the microscope, with an indifferent photo-micrograph to guide me as to dimensions. In this figure I have also endeavored to show the *pseudo-bacilli*, which I have thought it necessary to point out for the benefit of inexperienced persons who may be inclined to resort to the microscope for the diagnosis of their tubercular cases. The point of contact between the two pus cells in the lower part of the figure and the right hand margin of a nucleus in the cell containing three nuclei, are intended to exhibit this appearance.

Perhaps it will be thought by some, that a proper recognition of the merits of Koch as an accurate observer, of the fact that the Emperor of Germany has already rewarded him for his discovery, and my own statement, that I find the bacilli described by him in the sputa of tuberculous patients, are sufficient reasons for removing the interrogation point from the title of this paper. But the atmosphere of this remote locality is more favorable for interrogation points than is that—Berlin—in which the correspondent of THE MEDICAL NEWS, J. T. W., writes his interesting letters; I must therefore continue to fly my colors at the risk of being considered obstinately conservative and exacting. Dr. Koch, himself, admits that the demonstration is only made complete by his inoculation and culture experiments, and the results obtained by these, I am not yet able to confirm. This serial must, therefore, be still further extended.

SOME OF THE NERVOUS AFFECTIONS WHICH ARE LIABLE TO FOLLOW NEGLECTED CONGENITAL PHIMOSIS IN CHILDREN.

BY NORMAN H. CHAPMAN, M.D., B.S.,
PROFESSOR OF NERVOUS AND MENTAL DISEASES IN THE UNIVERSITY OF KANSAS CITY.

THE condition of congenital phimosis is a simple one. The foreskin is long and abundant, while the mucous membrane lining it is short and undeveloped. The defect or narrowing of the preputial orifice rests almost entirely in the contracted mucous membrane, rather than in the lax and overlying integument.

A penis congenitally deformed by phimosis is usually somewhat dwarfed or atrophied. The trouble is always a source of inconvenience, interfering with cleanliness as well as comfort, and it not unfrequently becomes the source of marked disease. Thus in children irritating secretions from the sebaceous follicles—the "smegma preputii"—are retained under the elongated and tight foreskin, and produce a considerable amount of local irritation, which is usually sufficient to keep the organ almost constantly in a state of undue excitement. Again, when the preputial orifice is smaller than the urethral meatus, and there is difficulty in micturition from the backing up or retention of urine about the glans, the irritability of the bladder which is invariably associated with it, not infrequently produces symptoms resembling those of calculus. Many a case of suspected urinary calculus in a young child, has after physical examination turned out to be aggravated congenital phimosis. Then, too, calcareous concretions sometimes form between the prepuce and glans. In my first operation for phimosis, upon a colored child aged five years, I found four well-formed calculi, of millet-seed size, embedded in a mass of gritty smegma. In India these concretions are very common, frequently forming in enormous quantities. Whishaw tells us that from a single native of India he has removed no fewer than 426 of these small calculi.

It is my principal desire at this time, however, to call attention to some of the varied nervous troubles which are liable to be brought about by neglected congenital phimosis, and I shall endeavor to illustrate the types of the maladies produced by short histories of appropriate cases taken from hospital records and my own private note-book.

There is scarcely a case of moderately severe congenital phimosis which does not in some way show its characteristic undermining influence upon the constitution and general health of the sufferer. In a fair proportion of the children thus affected, perhaps the only evidence of failing nutrition noticeable will be in the changes in disposition and in the setting up of an indistinct train of nervous phenomena. In children previously brisk and cheerful, there is a striking change of temper, they are now peevish, fretful, and discontented. The mental energies fail; the child is inattentive and forgetful at school; and there are disturbances of

appetite and of sleep. But in a certain proportion of these cases the evidence exhibited will be of a more serious character. The nervous system will be undermined to such an extent as to result either in chorea, or in some of the varied forms of reflex or peripheral palsy; and it is this class which I wish more especially to illustrate by a series of cases.

The tendency towards the development of choreic attacks is fairly shown in the following case:

P. F., a delicate lad, aged 7 years, applied to the out wards of the Philadelphia Orthopædic Hospital for suspected spinal trouble. Upon examination, although the spine was found to be perfectly normal, the child suffered much from irritability of the bladder; during the day he would pass small quantities of water frequently, and was continually wetting the bed at night and crying out with pain. The mother states that he is a cross, irritable child, cries a great deal, and complains of suffering pain on passing water, that he has been at school, but was sent home on account of inattention and forgetfulness, and that he was frequently punished by the schoolmaster for bad temper. Together with these symptoms of irritability of the bladder, the child exhibited certain awkward and incoördinate muscular movements of the body and upper extremities. These motor disturbances were not under the control of the will, but markedly exhibited their disobedience when a volitional act was attempted. When the child would attempt to pick up a small object, for instance, or do any similar act in obedience to the mandates of the will, it was done with that lack of coördination peculiar to the more common form of chorea. These incoördinate movements were not the monotonous jerking muscular contractions of the epileptic or hysterical case, but were marked by a good degree of variety, and so combined as to give to the observer the aspect of design in their execution. The muscles of the face also executed at regular intervals a peculiar grimace, and the shoulders were from time to time alternately raised and sunken. There was a faint anæmic heart murmur, but no organic lesion. The condition of the penis was that of phimosis. The prepuce was long, and the mucous lining membrane largely adherent to the glans. The margins of the prepuce were swollen and inflamed. The lips of the meatus, which could with difficulty be seen, appeared red and pouting.

Circumcision was performed. The child placed upon a tonic and nutritious dietetic regimen, with the occasional employment of the cold douche to the spine, and in two weeks after the parts had entirely healed, the irregular choreal manifestations had disappeared, but the lad still had the reputation of a bad temper.

This is not an isolated case. I have seen several whose histories were essentially the same, and its citation only adds another exciting cause to the group of choreal neuroses.

Paralysis of a purely reflex nature not unfrequently follows aggravated congenital phimosis. This fact was pointed out some years ago by Sayre, and has since that time been repeatedly observed. The types of reflex palsy, most common from this exciting cause, are of the nature of paresis rather than of total palsy, although there have been cases where the loss of power was complete. The parts most usually affected are the lower extremities, either singly or together; the arms, either the right or the left separately; and at times special muscles or groups of muscles. The following case will illustrate this form of reflex palsy as it occurs in the lower extremities:

A. L., æt. 5 years, a colored child of strumous parentage, was brought to me suffering from partial loss of power in the lower extremities. The mother's history of the onset of this trouble was very imperfect, but from her I learned that about four months previously the child had in rapid succession several spasms or convulsions, in which consciousness was apparently lost, and that after these attacks there was noticed some loss of power in the lower extremities. At first, not much attention was paid to this condition, but the child grew gradually worse, and as I first saw him the loss of power was well marked. The child could not stand alone; he had little or no use of the leg muscles, and only a limited amount of control over those of the thigh. There was an absence of reflex and automatic muscular movements upon irritation of the peripheral nerves of the part. Sensation, as tested with the æsthesiometer, remained nearly normal. There had never been manifestations of any derangement in the cerebral function. The electro-muscular contractility, as tested by the induced current, was very feeble, but there appeared to be little or no atrophy of the parts. The child appeared fairly well nourished, but as the mother expressed it, was "excessively nervous," "never still," and occasionally wet the bed at night. The child had phimosis, and the tissues about the preputial orifice were considerably inflamed, and, what is not very common, dotted with numerous small ulcers.

Feeling confident that the loss of power in this child's case was mainly of a reflex character, and dependent upon genital irritation, I began his treatment by circumcision, and followed it up by employing local massage, galvanism, and afterwards faradization, with mild tonics, and a short course of the iodides. The case made a rapid and almost complete recovery. In a month's time the child was able to walk about without much difficulty. After this I did not see the case.

Reflex palsies dependent upon neglected congenital phimosis, are not always of so severe and extended a nature as seen in the case just mentioned. The loss of power may be confined to a single member, or to a single muscle or set of muscles.

About a year ago, I saw in consultation a child, from Maryland, who was suffering from local palsy of the right upper extremity. The loss of power in the muscles of the forearm and hand was almost complete, but was not at all marked in the muscles of the arm and shoulder. Reflex and automatic movements were not easily excited, sensation was impaired in the hand affected, and there were evidences of beginning vaso-motor and trophic disturbances. The child had aggravated congenital

phimosis. In consultation I expressed the belief that the palsy was of a reflex character, and dependent upon the peripheral irritation set up by the neglected congenital deformity. This view was not entertained by the physician in attendance, but nevertheless, circumcision was performed, and in due course of time the child regained the use of the palsied member.

Single muscles are occasionally affected. Witness the following case of convergent strabismus from paralysis:

Willie W., æt. 6 years, a fairly well-nourished child, of healthy parents, applied to the surgical wards of the Orthopædic Hospital in reference to a bodily deformity. Beside the orthopædic trouble, it was noticed that the child had convergent strabismus. The mother stated that the eye trouble was of slow growth; that at first it was only noticed when the child was attempting to look at some particular object—that is, the condition at that time was what is known as periodical squint—but that of late the crossing had become constant and the eye somewhat fixed in its unnatural position.

The child suffered from the usual symptoms of irritability of the bladder; had marked phimosis, the penis was unduly large, appeared to be in a state of chronic excitement, and during a slight examination became erect. Circumcision was performed, the case carefully watched, and shortly after the parts had entirely healed we saw no more of his strabismus.

In cases of paralytic or spasmodic strabismus there is a condition of deficient innervation of one or more of the muscles of the ball of the eye. The condition is more or less the result of a vitiated nerve and blood supply, and has the effect of gradually lessening the power of the affected muscle until the eye is rendered more or less fixed in position. Cases of strabismus which are of this nature are easily distinguishable from those of concomitant squint, by observing the movements of the affected eye while vision is temporarily occluded from its unaffected fellow. For instance, if in a case similar to the one just mentioned, the sound eye be covered, the one affected cannot be readily directed towards any desired object, its mobility is impaired; whereas in the ordinary cases of concomitant squint the muscular innervation is normal, the affection of the muscle being practically only one of shortening, as is demonstrated by the perfect mobility of the ball of the affected eye when its fellow of the opposite side is closed. The impaired mobility *or fixation* of the eye-ball does not of itself indicate that the existing strabismus in this case was from palsy of peripheral origin; but when we consider in connection with this fact, the gradual onset of the trouble—how it was at first only periodic squint and afterwards became constant—the unimpaired mental faculties and the non-existence of other morbid phenomena indicative of brain or cord trouble, and its ready disappearance after the removal of the source of peripheral irritation, we can scarcely consider it anything else but one of those rare forms of purely reflex palsy in which only a single muscle is affected.

As to the manner in which the irritation of the peripheral nerves of the genitalia consequent upon congenital phimosis, produces such reflex palsies, it is not my present purpose to speak. I will only say that, in the opinion of Brown-Séquard,[1] "they result from chronic irritation of the genito-urinary organs, with secondary contraction of the vessels, of the cord, and atrophy of the corresponding parts." Romberg and Stanley consider them to be "motor-spinal palsies due to the suspension of the sensory influence of the fibres of the sympathetic system." According to Gull, the palsies in question result from the propagation of the inflammation in the urinary passages to the spinal cord. And Levisson has pretty clearly demonstrated that these palsies were "due to an arrest of the functions of the motor nerve-centres in consequence of excessive irritation of the sensory fibres at the periphery."

Before dismissing this brief mention of some of the maladies which occasionally follow neglected congenital phimosis, I should like to call attention to two cases which are not of a nervous character, but which will not be without interest. They are as follows:

C. and W., two little Italian boys, brothers, aged respectively 3 and 4 years. They were brought to the hospital for right-sided scrotal hernia, developed in each since their birth. Upon examining the herniæ, as to shape, size, and color, their appearances were remarkably similar. If there was any difference, it was in size; that of the elder boy being, perhaps, a trifle the larger hernia. They were each fully up to a pullet's egg in size. The penis of the oldest child was abnormally large, and appeared as if it were habitually in a state of semi-erection. The father remarked that he had noticed this child to rub and pull at the organ as if in pain, the titillation being no doubt a large factor in the almost constant excitement of the organ. There was marked phimosis. The preputial orifice was very small, only permitting a knitting-needle-like stream to flow during micturition, so that the urine collected between the prepuce and glans in a pouch-like manner. The margins of the contracted prepuce were red and angry, and there were noticed lumps of hardened smegma back of the corona. The condition of the younger child was much the same as that of the one just mentioned, except that the penis was very small, atrophied; there were no collections of smegma preputii, and the prepuce was largely adherent to the glans. These children were both peevish, fretful, cried a great deal, and strained heavily with every attempt to relieve an irritable bladder.

Circumcision was peformed in each of these cases; the herniæ reduced and held in place by a properly fitting truss. The mother remarked several weeks after the operations were performed that the change wrought in the disposition of the boys "was something truly remarkable."

Dr. Louis A. Sayre[2] has recently recorded two cases very similar to the above occurring in his private practice, in a pair of male twins. In Dr.

[1] Putzel's Translation of Rosenthal on "Nervous Diseases," vol. ii. p. 152 *et seq.*

[2] Medical News and Abstract, June, 1880, p. 326.

Sayre's cases the herniæ were inguinal, and were believed to be caused by excessive crying, and by straining efforts during micturition. There was severe phimosis in each of the twins, and circumcision was performed, but we are not told as to the result.

From the above citation of cases it will be seen that the long and contracted foreskin with which so many young children are born is not always a harmless deformity. Indeed it may be truly said to be the cause of a great variety of secondary complications, which are oftentimes more serious than the original trouble. We have no knowledge of the exact relation which the cases of congenital phimosis bear to the number of male births. I think if we had, the proportion would be much larger than is ordinarily anticipated. I conceive that it is always good surgery to correct this deformity, wherever it is at all aggravated, as a precautionary measure, even though no symptoms have as yet presented themselves to indicate the early development of such troubles as I have here endeavored to illustrate. Moses was a good sanitarian, and if circumcision was more generally practised at the present day, I believe that we would hear far less of the pollutions and indiscretions of youth; and that our daily papers would not be so profusely flooded with all kinds of sure cures for loss of manhood.

A CASE OF EXTERNAL PERINEAL URETHROTOMY,

UPON A CONDUCTOR, FOR A RESILIENT STRICTURE OF THE DEEP URETHRA, AND THE MEDIAN LITHOTOMY OPERATION FOR THE REMOVAL OF A FOREIGN BODY FROM THE BLADDER AT ONE SITTING.

BY HENRY I. RAYMOND, M.D.,
ASSISTANT SURGEON U. S. ARMY, LATE HOUSE SURGEON TO BELLEVUE HOSPITAL.

WHILE halting as between an internal urethrotomy and an external perineo-urethral section for a deep resilient stricture of the urethra, the choice or manner of operation was decided in my mind by the lodgement in the bladder of four inches of a hard rubber catheter by meddlesome interference and the failure to extract the same with the urethral forceps, and inability to obtain a lithotrite for a final trial by extraction. The indications seemed to be to make a perineal section, incise the urethra at the seat of stricture, and extract the foreign body through the perineal wound.

I. D., Irish, in fair physical condition, but obdurate and obstinate, had had six gonorrhœas, the first attack being fourteen years ago. Seven years subsequently an embryonic stricture appeared, and in course of time encroached upon the calibre of the urethral canal so as to necessitate instrumental dilatation.

On seeing the case for the first time three months ago, I found a stricture at five and a half inches, which grasped tightly a No. 6 conical steel sound, but would dilate readily, by virtue of its resiliency, up to a No 10. After practising gradual dilatation not oftener than twice a week for two months, a No. 15 steel sound passed snugly. Since then the same calibre has been reached at each sitting, but it has been necessary to begin the dilatation with much smaller numbers. Ten days after the passage of a No. 15 steel sound, the patient came to me at six o'clock in the evening with a retention of urine of a few hours' duration, which was relieved by a large-sized catheter, introduced after the passage of Nos. 7, 8, and 9 steel sounds.

It not being advisable to treat the patient, a military convict, out of quarters, I tied in his urethra a well-oiled, but too brittle, vulcanized rubber catheter, and instructed him in three hours to void his urine, and then slowly to withdraw the catheter for the night.

Immediately after I left him, he tells me, he untied the catheter, shoved it backwards and drew it forwards repeatedly in his urethra, to see how tightly it might be grasped, and finally withdrew the major portion of the instrument, leaving four inches of hard rubber tubing in his bladder. Patient's obstinacy prevented the removal of the foreign body until the lapse of thirty-six hours, when symptoms of vesical irritation—pain and frequent micturition—began to manifest themselves. Thereupon patient was etherized, and being placed in the lithotomy position, the bladder was sounded, and the fragment of a catheter detected.

Assistant Surgeon E. C. Carter, U. S. A., then passed a lithotomy staff, and, holding the staff at a perpendicular to the hypogastrium, exactly in the middle line, pressed lightly against the flesh of the pubic cushion, the scrotum being elevated.

Having secured an exact symmetrical position of patient's hips and buttocks, the operator, with the left forefinger in the patient's rectum, steadied the staff and guided a long narrow-bladed bistoury, entered at a point half an inch above the anus, into the groove of the staff at the apex of the prostate. The knife, with its cutting edge uppermost, incised the urethra a few lines in length, and was then withdrawn upwards, making an incision in the perineum of an inch and a quarter. The procedure thus far formed the initial step in common to both subsequent operations, namely, the urethrotomy with relief of the stricture, and the "lithotomy" with extraction of the imprisoned catheter.

In the next step the longitudinal cut in the urethra was extended for almost two inches, liberating the stricture and affording ingress into the bladder. The operator's left index finger was then removed from the rectum, and, being well coated with vaseline, was entered at the perineal wound, and by a gentle twisting and boring movement effected the dilatation of the prostate and an entrance into the bladder, the finger being guided surely into that viscus by following along between the upper urethral wall and the *concavity* of the staff.

When this simple rule has not been conformed to, it has happened that the dilating finger has made for itself in the abundant cellular tissue a cul-de-sac, in which, of course, the presence of a vesical calculus failed to be demonstrated. Dr. Carter now withdrew the lithotomy staff from the urethra. The finger once in the bladder, its bas fond was

explored to the left and then to the right, and the foreign body, felt in the latter situation, was extracted by the urethral forceps aided by the left forefinger of the operator.

Patient was then put to bed on his back, with his lower limbs approximated, and the scrotum was elevated by a suspensory bandage as a preventive measure against urinary infiltration.

The loss of blood amounted to not more than a tablespoonful, although there existed external hemorrhoids from constant straining at micturition. The shock to the patient was very slight, but to prevent urethral chill, quinia sulph. grs. x and morphia sulph. gr. ¼ were given as patient came from under the anæsthetic. The perineal wound was left free and open, inasmuch as Menzel, and, later, Keyes, have shown, by traumatic infiltration in dogs, and by hypodermic injection of healthy urine in man, that normal urine is innocuous to cellular tissue and membranes denuded of their epithelium. No catheter was retained or passed, since its presence has often been the cause of urethral chill, ulceration and incrustation, and prevention of union by the first intention. The urethral wound was cleansed twice daily with a 2½ per cent. carbolic acid solution, and balsam of Peru and marine lint applied.

The temperature has not risen at any time above 99.8° Fahr. Subsequent to operation patient received tinct. ferri chlor. gtts. xv, well diluted, and quinia sulph. grs. iij, t. i. d., and his urine was rendered bland and unirritating by potash and diluent drinks.

I passed a full-sized, well-polished steel sound on the second day and on each third day thereafter.

One week from date of operation the urine began to pass in some measure by the natural channel out through the meatus urinarius, and the ratio to the whole quantity gained an increment at each subsequent act of urination up to within the third week, when the urethral rent had closed and the whole stream of urine was ejected from the distal orifice. At no time did patient lose control of his vesical sphincter. No untoward symptom presented itself, and patient was permitted to leave his bed on the eighth day. The wound healed without discharging one drop of pus.

Catheterization can now be made with a full-sized instrument, and the stricture may be said to be "cured," with the proviso that a large, highly polished steel sound be passed every week or fortnight as long as for him the law shall hold good that irritation of living organic fibrous tissue will cause retraction.

HOSPITAL NOTES.

UNIVERSITY HOSPITAL.

(Service of PROFS. D. HAYES AGNEW AND JOHN ASHHURST, JR.)

FOUR CASES OF ABDOMINAL INJURY.

(Reported by THOMAS D. DUNN, M.D., RESIDENT SURGEON.)

CASE I.—J. R., æt. 15, admitted under care of Dr. Agnew, March 20, 1882. While lifting a box into a wagon, the box slipped, striking his abdomen. The patient fainted, and lay unconscious for several minutes, and when brought to the hospital his condition was alarming—a rupture of some abdominal viscus being suspected. The symptoms were those of profound shock. He lay listless and helpless. There was great pallor, and the skin was covered with a cold sweat; the temperature in the axilla was only 97° F.; the heart's action was slow and slightly intermittent; pulse small and compressible. Abdominal tenderness was not marked and no evidence of external injury could be detected. There was no vomiting or retention of urine. The treatment consisted in the application of external heat, and in the administration of carbonate of ammonium and a moderate amount of stimulus. For the epigastric tenderness a large poultice was applied to the abdomen. In a few hours he reacted, but the belly continued tender to the touch, and there was considerable prostration for forty-eight hours. He was discharged three days afterwards, cured.

CASE II.—C. R., æt. 17, brakeman W. C. & P. R. R., admitted into house under care of Dr. Ashhurst. In walking from one box car to another he fell between them —striking with his abdomen on the circular wheel of an ordinary brake. His condition on admission was similar to that of the previous patient—one of severe shock. The abdominal tenderness was more marked, and there was slight contusion of the walls of the abdomen. The temperature was subnormal and catheterization was required to empty the bladder. The shock was treated in the same way as in the preceding case, and after reaction was thoroughly established calomel and opium were prescribed. There was some vomiting, but no tympanites or constipation. He left the hospital well in one week after admission.

CASE III.—P. N., æt. 43, seaman, admitted December 5, 1881, under care of Dr. Ashhurst. The injury was sustained by falling down the hatchway of a vessel and striking with abdomen on a beam. The patient was picked up unconscious, and when brought to the hospital complained of pain in the abdomen, which was tender to the touch and considerably tumefied. There was great anxiety of countenance; the pulse slow and feeble; skin cold and clammy; temperature subnormal; respiration shallow and gasping. Diffusible stimulants, external heat, hot poultices to abdomen, and the free administration of opium constituted the treatment. The urine had to be drawn off, but it contained no blood. On the 6th his condition became more alarming. The belly was enormously distended with gas and very painful to touch. The dyspnœa was more marked, and there was frequent vomiting. Temperature was $100\frac{3}{5}°$; pulse 60. Dr. Ashhurst directed an increase of opium, mercurial inunctions over abdomen twice daily, to be followed by hot poultices, and in case the dyspnœa threatened the life of the patient, a resort to aspiration. On the 7th the pulse dropped to 48, but the temperature remained about 100°. The violent vomiting rendered rectal alimentation necessary. On the 7th day after admission his gums became sore and the mercury was stopped, and the day following there was a copious movement of the bowels, the first since admission. It was followed by decrease in dyspnœa, vomiting, and tympanites. The patient's temperature ranged from 99° to 101°, and pulse from 48 to 64 for ten days. He left the house convalescing twenty-eight days after admission.

CASE IV.—B. S., æt. 24, laborer, admitted March 13, 1882, under Dr. Agnew's care. The injury was received by the kick of a horse, to the left of the median line and below the floating ribs. There was considerable shock on admission, from which the patient slowly reacted. He passed a large quantity of blood from the bladder soon after receiving the blow. The same

evening the belly began to swell with abdominal pains and tenderness, and the vomiting of everything taken into the stomach. On the 14th, the blood had almost disappeared from the urine, but catheterization was still required; the distention of abdomen increased with increase of tenderness and constant vomiting of bile; temperature 100°, pulse 72 and very feeble. Mercurial inunctions, with hot poultices and the free administration of opium, as in the previous case, constituted the treatment. In addition to this, nearly every remedy known to allay the irritability of the stomach was unsuccessfully tried. Food was given by rectum. Catheters were frequently passed into the rectum and turpentine injections employed, hoping to effect an escape of gas, but with very imperfect results. The dyspnœa and vomiting on the 17th became more urgent, and early on the morning of the 18th an attempt was made to remove the gas by the insertion of a large stomach tube far into the rectum, and failing in this, a small trocar and canula was inserted in the median line about two and a half inches below the umbilicus. A large quantity of gas escaped and immediate relief of both vomiting and dyspnœa followed. The patient expressed himself relieved, and went to sleep and not waking until daylight, when there was a large movement of the bowels. He rapidly improved, and in a few days was convalescent.

Remarks by the Reporter.—The first two cases seem to have been simply concussion of the solar plexus, without rupture of peritoneum, and recovery without peritoneal inflammation. They are examples of a class of injuries the symptoms of which, though they are characterized by profound shock, disappear in a few hours to be unattended by subsequent mischief. Mr. Pollock (on Injuries of Abdomen, *Holmes' System of Surgery*, vol. ii. p. 619–23) relates similar cases from *St. George's Hospital Reports.* The condition of Cases III. and IV. rapidly became alarming. Although the external manifestations of injury were but slight in Case IV., and none in Case III., there must have been a rupture of the peritoneum (probably parietal portion) and localized peritonitis.

The practical teachings to be obtained from the above, are that trifling blows to the yielding abdominal walls must be considered with care and treated with caution. We should not, however, despair when the gravity of the symptoms point to the most formidable injury. Contusions of the abdominal walls are more severe than of most other parts of the body. This is due to the coverings of the abdomen having less power to resist blows, and enveloping a large serous surface in intimate connection with the solar plexus of nerves.

The theory has long been held that sudden death may follow a blow on the abdomen without any perceptible organic lesion being detected on dissection, and Woodman and Tidy (*Forensic Medicine*, p. 1029) refer to cases in which persons have been convicted of manslaughter, though no morbid appearances were detected on *post mortem* in the bodies of those whom they were supposed to have killed. They claim that in such cases of sudden death, the solar plexus or semilunar ganglion is injured. Guy (*Forensic Medicine*, p. 376) says "contusions of the abdomen may produce sudden death by shock, rupture of epigastric artery, or peritoneal inflammation." Similar views are held by Beck (*Med. Jurisp.*, p. 282); Dean (*Med. Jurisp.*, p. 231); Wharton and Stillé (*Med. Jurisp.*, p. 861); Taylor (*Med. Jurisp.*, Amer. ed. by Reese, p. 338). Travis, Alison, Watson, Cooper, and others, also speak of blows on the pit of the stomach producing sudden death without visceral lesion. Pollock (*op. cit.*) has carefully investigated the cases brought forward to establish this popular theory, and shows that the facts related in them do not justify their view. Woodman and Tidy refer to the following cases: Regina *v.* Laws, Norwich Lent Assizes, 1854; Rex *v.* Jones, Warwick Summer Assizes, 1831. Mr. Wood (*Medical Gazette*, vol. xliv. p. 213) reports a case which Dr. Taylor considers an "unequivocal instance" of sudden death from a blow on the epigastrium. Pollock quotes this case in detail, but rejects it; the man had been engaged in a pugilistic encounter for some time, had received repeated blows and bruises previous to the one in the pit of the stomach, and was intoxicated. These formed three elements of physical exhaustion rather than sudden death from a blow in pit of stomach. The post-mortem examination revealed contusions from the effect of the repeated blows, and the meninges and brain were congested as the result of intoxication. Mr Poland (Prize Essay on Injuries of Abdomen, quoted by Pollock) relates a case of a woman in advanced pregnancy. She had received repeated blows inflicted by her husband with a cod-fish for several minutes; no lesion was found. Her husband was tried and convicted of murder in Norfolk Circuit Court, at Cambridge, in 1835. Another case is quoted by Poland, of a man killed in a pugilistic encounter, and his antagonist convicted in Central Criminal Court, August, 1841. In Sir Astley Cooper's case, the exhaustion and heart disease were sufficient to account for the sudden death, and he only received the case second-hand.

Those cases, as Pollock has suggested, were reported before pathological changes were observed as carefully as at present, and pre-existing disease may have been present in some, and many of them have been in physical combats where exhaustion and excitement furnish an important element in the cause of death. I have consulted many of the American and English journals of the last twelve years, and have been unable to find a case where sudden death has resulted from a blow to the abdomen without any visceral lesion being detected by careful dissection. Many of the medico-legal authorities referred to above refer to the same notes that Pollock rejects. They state that the cases are numerous, but it seems rather remarkable that they should select those to establish their theory, which have been shown to be of questionable nature, and that no case should have been mentioned since 1854. The recovery of the four cases recorded in this paper, in two of which peritonitis had set in, seems to support the view held by Pollock. At least further carefully conducted autopsies are necessary before the old theory—that sudden death may result from a blow to the abdomen without any perceptible organic lesion—can be considered demonstrated beyond reasonable doubt.

VIENNA GENERAL HOSPITAL.

(Service of PROF. BILLROTH.)

RESECTION OF THE PYLORUS FOR STENOSIS.

(Specially reported for THE MEDICAL NEWS.)

PROF. BILLROTH, upon the 3d of August, performed the second recorded pyloric resection for stenosis of non-malignant origin. The first operation, it will be remembered, was performed by Rydygier for stenosis following gastric ulcer.

Three weeks before the operation Prof. Billroth's patient swallowed a quantity of caustic soda, which resulted in the production of stenosis of the pylorus. Food was regurgitated whenever ingested, and the evidence was complete that it could not pass the pylorus.

An abdominal incision from ten to eleven cm. in length was made, and the constricted pylorus was removed, the exsected portion measuring about ten cm. in length, and possessing an irregular quadrilateral form. The lower portion of the oblique incision through the stomach was secured in the so-called "oc-

clusion suture" by six deep and ten superficial silk sutures. The length of the "occlusion suture" was about ten cm. The upper portion of the oblique incision was thus converted into a circular wound whose lumen corresponded exactly with that of the adjoining portion of the duodenum. The gastric and duodenal walls were then neatly united and the external wound closed.

The hemorrhage, during the entire operation, was trifling and easily checked. The patient evinced very little shock, although the operation lasted one and one-quarter hour.

The same sponges which were used for the removal of the contents of the stomach were employed in performing the "toilette" of the peritoneum.

The patient received upon the day of the operation, milk; the next day, soft food; and before the sixth day, meat was ingested.

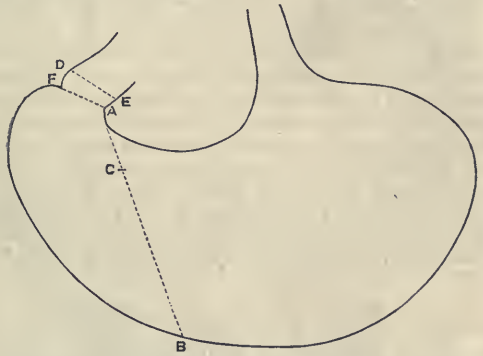
No untoward symptom occurred until the sixth day after the operation, when evidence of peritonitis was given, and the patient died.

The autopsy, made upon the following morning, showed that six stitches in the "occlusion suture" had given way, allowing the contents of the stomach to escape into the abdominal cavity. Small abscesses had formed around each of the stitches that had given way. The usual lesions of acute peritonitis were also noted.

It is supposed that the small abscesses about the stitches were of septic origin, due to the employment of the same sponges for removing the stomachic contents and cleansing the peritoneal surface of the "occlusion suture."

The result in this case is regarded with profound regret by Prof. Billroth, and his first assistant Dr. Wölfler, for if the patient had recovered, it would have established the feasibility of the operation.

The appended diagram will serve to convey an idea of the steps of the operation.



A B. Incision, oblique, through stomach.
D E. Incision through duodenum.
A F. Seat of stricture.
B C. 10 cm. length of "occlusion suture."
A C. Free portion of oblique incision through stomach in circumference.
D E. The circumference of duodenum.

MEDICAL PROGRESS.

EXTIRPATION OF THE CANCEROUS UTERUS.—DR. A. N. SOLOVIOFF, of Moscow, records (*Mediz. Obozr.*, Jan. 1882) his third case of extirpation of the uterus for carcinoma of the cervix, in a patient aged 53. The operation was performed through the vagina. The uterus having been brought down by means of Museux's forceps, the cervix was separated from the surrounding parts, and then Douglas's pouch was laid open. The anterior peritoneal *cul-de-sac* was not opened; the operator cut off, by means of scissors, the whole of the mucous membrane and the greater part of the muscular wall, leaving a thin stratum of the latter, with the serous covering *in situ*. The broad ligaments were then divided, some vessels were tied, and a drainage-apparatus (four Nélaton's flexible catheters sewed together) was introduced into the opening in Douglas's pouch. On the seventh day after the operation, the drainage-tube was removed. On the fifteenth day, the patient was up. Her recovery was rather slow. This is the second time the author has operated through the vagina, which method he prefers to the high (or laparotomic) operation, finding the low extirpation technically easier and less liable to such complications as shock, or accidental wounding of the bladder or ureters. The high operation he regards as indicated only when the uterus is too large to be removed through the posterior or anterior peritoneal *cul-de-sac*, or when there exist adhesions of the womb and degeneration of lymphatic glands (*Mediz. Obozr.*, Oct. 1881, p. 516). The author gives the reasons which led him to perform total extirpation of the womb, though the cervix alone was affected. The researches of Drs. Ruge and Veit have shown that in cases of cervical cancer the epithelium of the body of the uterus also degenerates very early. Microscopic examination of the mucous membrane of the body of the organ in the author's case fully confirmed the statement of Ruge and Veit. Dr. Solovioff belongs to the most ardent advocates of Freund's operation, and even holds that total extirpation of the uterus is the only rational procedure in the treatment of uterine cancer.—*London Medical Record*, July 15, 1882.

EARLY OPERATIVE TREATMENT OF STRUMOUS JOINT-DISEASE.—MR. J. GREIG SMITH summed up his remarks in opening the discussion on this subject at the recent meeting of the Section of Surgery of the British Medical Association, as follows:

1. Strumous disease starts either as a synovitis or as a medullitis, and requires different forms of treatment as it is one or the other.

2. In synovio-arthritis, while recommending the use of such measures as elastic compression over cotton-wool, counter-irritants, and functional rest, he believes that a systematic use of passive motion is beneficial.

3. In medullo-arthritis, absolute rest in plaster o Paris he believes to be, on the whole, the best form of treatment—better than extension, and better than counter-irritants and other means.

4. If there be no signs of improvement after a few weeks' use of such treatment, he believes that we ought to step in and operate. In synovia-arthritis, the most generally useful plan would be, to make large incisions into the joint, peeling the granulations off the articular cartilage, and removing as much of the pulpy material as possible, and freely draining. In medullo-arthritis, we ought to remove the inflamed marrow from the inside of the bone along with the trabeculæ, and endeavor to fill the cavity with blood-clot. In both cases, he would operate antiseptically.

5. If these means fail, then excise; but excise early. —*British Medical Journal*, August 26, 1882.

YVON'S TEST FOR THE PURITY OF CHLOROFORM.—The test recently proposed by M. Yvon for the purity of chloroform (see THE MEDICAL NEWS, March 4, 1882, p. 244), has been subjected to a critical examination by several English chemists, and is condemned for the following reasons:

1. The test is too rigorous, in that it does not permit of the presence of the small proportion of alcohol which experience has proved necessary for the preservation of chloroform.

2. That any sample of chloroform, however impure,

can be made to answer to the test by merely agitating it with sulphuric acid.

3. That all chloroform manufactured, previous to the addition of alcohol, will stand the test, although it may not pass the tests ordinarily prescribed.

4. That the chloroform purified by M. Yvon's process, by agitation with an alkaline solution of potassium permanganate, is certainly not pure, even judged by the crude test of the odor alone.—*Detroit Lancet*, September, 1882.

Resection of the Hip-joint.—Mr. George Cowell reported at the meeting of the Section of Surgery of the British Medical Association his experience in sixty-five cases of excision of the hip, in which his percentage of deaths amounted to ten per cent. His conclusions are:

1. Resection should be restricted to cases where there is distinct grating in the joint, accompanied by either pain or profuse suppuration, or failure of health.

2. It should be performed without loss of time, as soon as these conditions are recognized.

3. It is inadmissible in patients over eighteen years of age. All three of my older patients died with more or less prolonged suppuration, and without the slightest attempt at repair. I have never seen an adult patient recover from excision of the hip.

4. The younger the patient (my youngest patient was three and a half) the more satisfactory the result, and the more rapid the repair.

He now performs the operation antiseptically, and always removes the great trochanter with the head of the bone. By not postponing the operation, the acetabular mischief is usually slight. Both ends of the wound are closed with two silver sutures, a tube being inserted so as to keep the centre of the wound, opposite the acetabulum, open. He prefers Bryant's splint, and fixes the limb operated upon one inch shorter than the other. This extension is a matter of great importance, as he is convinced that the muscular contraction forcing the shaft of the femur against some part of the acetabulum is a frequent source of subsequent failure, and of undeserved discredit of the operation. In the last few cases, when possible, he has placed the children for the first few weeks in the prone position (face downwards), so as to avoid soaking the bandages with urine. He has tried this plan for too short a time to express any positive opinion with regard to it; but it answers its purpose exceedingly well, and is marvellously tolerated by the little patients.—*British Medical Journal*, August 26, 1882.

Purulent Ophthalmia Cured by Iodoform.—Dr. Dujardin reports the case of a child, eight monts old, who has been suffering for five days from purulent ophthalmia. Both corneæ were grayish throughout, and on the point of ulceration. The eyelids were constantly closed, and presented a truly enormous erysipelatous swelling; pus escaped in abundance, unmixed with tears. The general condition was bad; face pale; complete loss of sleep and appetite.

At first, according to routine practice, a two per cent. solution of nitrate of silver, neutralized with salt-solution, was applied, and then washed freely with pure water. The result was not good; the everted eyelids presented whitish escars, produced by the cauterization; both corneæ showed well-defined opacities, probably caused by the injurious action of the nitrate of silver; the conjunctival suppuration remained quite as abundant as before, and the swelling of the lids underwent no change in spite of the use of iced water compresses. Under these circumstances it was almost despaired of a successful issue, but he resolved to try the insufflation of iodoform so strongly recommended, and dusted the powder all over the conjunctival surface of the lids. The following day an improvement was noticeable; the purulent discharge had decreased considerably, and the eyes began to water, which he regarded as a very favorable symptom. He continued the application of iodoform. During this time the little patient took broth and Malaga wine. The purulent secretion then entirely ceased, the tears ran freely, the corneæ returned to a better state, becoming more transparent; the superficial opacities, due to the use of the nitrate of silver, gradually disappeared. Eight days from the commencement of the treatment the child was out of danger. He sent him back to his parents at Roubaix, with only a small opacity remaining in each cornea, which will, doubtless, disappear in a short time.—*Ophthalmic Review*, September, 1882.

Antidiphtheritic Inhalation.—Some years ago, Dr. H. Hagar recommended a mixture composed of

Carbolic acid,	10 parts.
Alcohol,	10 "
Water of ammonia,	12 "
Distilled water,	20 "

as an excellent inhalation in catarrhal affections. It was directed to be used thus: A small wide-mouthed bottle was to be filled one-third with the liquid; then a sufficient quantity of cotton was to be introduced to just soak up all the liquid. The bottle was to be well stopped. In coryza, incipient catarrh, or similar affections, the inhalation through the nostrils of some of the vapor of the compound was found to be of the greatest benefit.

The same author now recommends a still stronger compound, to be made from

Carbolic acid,	10 parts.
Oil of turpentine (or oil of eucalyptus),	5 "
Water of ammonia,	12 "
Alcohol,	20 "

A small quantity of this is to be dropped into a small wide-mouthed bottle half filled with cotton or asbestos, and the bottle well stopped. After a few days, a little more may be added, until a strong odor is given off when the bottle is opened.

A physician to whom Dr. Hagar recommended the use of the compound thinks that it prevents the spread of diphtheria, since, in five families, in each of which one case of diphtheria had become developed, its further spread was arrested, apparently through the use of the antiseptic inhalation. In another family, a second child was taken with the disease; but the child could not be coaxed to inhale the vapor. The inhalations should be as full and deep as possible. In some cases of coryza, it has been used with most excellent effects.

Should the odor of oil of turpentine be too offensive to any person, oil of eucalyptus may be substituted for it.—*Cincinnati Lancet and Clinic*, Sept. 9, 1882.

An Unusual Relation Between the Placenta and the Membranes.—In the September number of the *New York Medical Journal and Obstetrical Review*, Dr. Henry J. Garrigues, of New York, describes a very remarkable relation between the membranes and the placenta. The placenta measured twenty centimetres in diameter, the cord sixty-four centimetres in length, and both were of normal thickness. The cord was inserted centrally. The membranes which had contained the child did not adhere to the edge of the placenta, but started from the point of insertion of the cord on this organ. Measured in a flaccid condition, hanging down around the cord, this bag was forty-one centimetres long. It was easily separated into two layers. The inner layer was covered with the epithelium characteristic of the amnion, a single layer of flat polygonal cells, which were in a state of fatty degeneration, as proved by numerous oil globules found in their interior. The outer layer consisted only of con-

nective tissue, which, in some places, contained a few round or oval cells, and many fat drops. In other places some loose shreds were found on the outer surface, which showed a greater number of similar cells. At the placental end of the cord the sac was seen to form a kind of triangular mesentery, embracing the first eleven centimetres of the cord, and attached to the sac to a similar extent. The two layers forming this fold were not united, so that the finger could be pushed in between them up to the cord; but at the lower end (*i. e.*, nearer to the fœtus) they grew together, so that a pouch was formed between the "mesentery" and the cord, admitting half the length of the index. At the placental end of the cord there was found in the interior a small clear vesicle of the size of a pea (the umbilical vesicle). The placenta presented the common shining, smooth fœtal surface, and rough maternal surface. The edge looked ragged, as if something had been torn from it, and in one place even a small, square piece of membrane about two centimetres in either direction was found attached to it. This membrane had no epithelium, and was composed of an inner layer of connective tissue, and an outer layer containing many round and oval cells. From the fœtal surface two membranous layers could be dissected off. The most superficial was exceedingly thin, the deeper one comparatively thick, and bound by isolated fibres to the placental tissue. The fœtal surface had no epithelium. The chief point of interest was that the sac in which the fœtus was placed, and which contained the amniotic fluid, was not attached to the circumference of the placenta, but to its centre, all around the insertion of the cord.

Microscopical examination showed that this sac was composed of the amnion and the chorion, but had only scant remnants of decidua attached to it here and there. On the other hand, the portion of membranes found attached to the edge of the placenta was composed of decidua and chorion without amnion, and the fœtal surface of the placenta had no amniotic epithelium. Dr. Garrigues supposes, therefore, that the placenta all around was separated, after the birth of the child, from the decidua, which remained attached to the interior of the womb. Secondly, that the amnion and the chorion together formed a fold from the circumference to the centre of the placenta, which fold on one side was open, and formed the meso-cord described. Such a folding was, perhaps, brought about by accumulation of fluid between the chorion and the decidua after the formation of the placenta. At first he supposed that the amnion alone partook of the folding; but then we should find, he adds, on the sac surrounding the fœtus, the line where the chorion had been torn, and there was no trace of anything of the kind. He thinks, therefore, we must conclude that the chorion remained close to the amnion all the way, and was folded with it so as to cover the fœtal surface of the placenta twice, as well as the amnion. This supposition is corroborated by the fact that two layers could be dissected from the fœtal surface of the placenta. The outer one was very thin, and this he took to be the chorion; the inner was thick, and this he explains as being the two layers of amnion grown together by their epithelial surfaces.

INGUINAL HERNIA OF THE OVARY.—PROF. ROSATI (*Jour. de Med. et de Chirurg. Prat.*, July, 1882) reports a case of inguinal hernia of an ovary resembling a strangulation of the intestine, where a removal was followed by restoration to health. A Florentine woman, forty-eight years of age, presented herself to his surgical clinic (*Presse médicale belge et Sperimentale*) for relief from a tumor situated in the left inguinal region, and about the size of a large potato. This tumor, rather hard and somewhat nodular, offered slight fluctuation at the level of greatest prominence. There was also a painful spot aggravated by pressure, the pain radiating to the umbilicus and epigastrum. Reduction was easy, but the tumor reappeared immediately upon removal of the pressure.

According to a statement of the patient, her mother had been aware of the existence of the tumor from her birth. At first very small; it attained the size of a walnut.

The patient had menstruated regularly since fifteen years of age, and has been three times pregnant. The first and third pregnancies terminated normally, the second in an abortion at the third month. It is interesting to note that during the two normal pregnancies, and beginning with the seventh month, the tumor passed up into the abdomen and remained there until delivery, permitting the patient to lay aside the bandage she was accustomed to wear.

Finally, a few days previous to the consultation, and just at the onset of menstruation, the patient was seized with a chill, accompanied by severe headache and a bad cough; the entire abdomen became painful, and in a short time vomiting supervened.

Prof. Rosati diagnosticated the malady as one of irreducible, congenital, inguinal hernia of the omentum, and prescribed rest in the recumbent posture, low diet, morphia internally, and application of ice to the seat of pain. But after a few days the vomiting became more pronounced, the retention of feces was complete, and the surgeon had recourse to the operation for strangulated hernia. Arriving at a point of fluctuation which he supposed to be the hernial sac, he incised it with care and gave exit to a sticky fluid. The other prominences not communicating with this one were likewise incised.

The pedicle of the tumor, extending up to the abdominal opening of the inguinal canal, was enucleated, and the operator recognized that the tumor was riddled by little cysts. Certain by this time that he was dealing with the left ovary, he severed the pedicle between two ligatures of catgut, inserted a drainage tube and united the edges of the wound. The recovery was complete in a few days. Microscopic examination of the specimen confirmed the belief that it was ovarian.—*Cincinnati Lancet and Clinic*, August 26, 1882.

AN ACCIDENT OF LABOR.—The frequency with which the compression of the cranium, during the passage of the fœtal head through a small pelvis, causes serious injury to the cerebral substance is well known. It is not probable that the skilful use of forceps increases the amount of damage; it is possible, although difficult to prove, that thus the injury may sometimes be lessened, but whatever be the force of mechanism by which the fœtal head passes through a narrow aperture, compression and damage there must be, in proportion to the contraction of the orifice. The fact of the injury to the cerebral tissue which results is strikingly illustrated by the discovery of Ruge that brain tissue may be found in the circulating blood in these cases, a fact which may also explain some other symptoms occasionally observed soon after birth in cases of difficult and instrumental labor. Ruge recorded three such cases, and a fourth has recently been placed on record by Dr. Paolo Negri of Milan. In this case, however, the fœtal head was compressed in the uterus and not in the pelvis, the presentation being transverse. The woman was small of stature, only four feet six inches high, with old rickety deformities. Her first labor had to be terminated by embryotomy; in the second and third pregnancies labor was induced in the eighth month. In the fourth, she had gone to the full time and the arm presented. Several

attempts at turning were made without success, the membrane having ruptured; ultimately version was effected under chloroform, but the child had been dead some time. Its heart was carefully removed, the vessels having previously been tied. In the left auricle and left ventricle there was but little blood, but in the right auricle there was a quantity of liquid blood, mixed with numerous soft whitish fragments of tissue, similar in appearance to cerebral tissue. A drop of blood, mixed with a drop of a saline solution, showed under the microscope a considerable number of well-formed nerve cells, while minute capillaries were found in the whitish fragments. — *Lancet*, August 26, 1882.

Removal of the Superior Maxillary Nerve for Neuralgia.—At a recent meeting of the New York Society of German Physicians, Dr. Gerster showed a patient who had suffered from facial neuralgia for many years, probably induced by extreme degrees of heat and cold to which the man had been exposed by plying his trade as an oven-builder. In 1877 Dr. Mott divided the nerve, but the pain returned after a short time. In 1878 Dr. Hassloch gave large doses of salicylic acid and quinia, with but temporary benefit. Subsequently Dr. Weir brought about a remission of three months by subcutaneous injections of $\frac{1}{96}$ gr. of aconitia, repeated every two hours. Dr. Gerster then proposed and performed Langenbeck's osteoplastic section of the superior maxilla, with displacement of that bone and removal of the nerve. Two incisions were made—the first along the lower border of the malar bone, beginning in the nostril and terminating at the middle of the zygoma; the second beginning at the nasal process of the frontal bone, following the lower margin of the orbit and joining the first incision on the zygoma. The masseter was dissected from its attachments, and the soft parts were separated from the bone as far as the pterygo-palatine fossa, and, by means of a key-hole saw, the superior maxillary bone was divided parallel to the hard palate and into the nose. The infra-orbital nerve was now exposed in the line of the upper incision, and cut through at its exit from the infra-orbital foramen; after this the eyeball was pushed upward, and, the key-hole saw being introduced through the infra-orbital fissure, the zygomatic arch was cut through. The floor of the orbit was now carefully chiselled through, care being taken not to injure the lachrymal duct, and, by introducing a lever into the cut in the malar bone, the exsected piece of the bone was turned out, hinging upon its soft attachment to the nasal and frontal bones. Thus, the nerve glided out of the infra-orbital canal, and was cut away at the foramen rotundum. The wound was now disinfected with an eight per cent. solution of chloride of zinc, the bone was replaced, superficial sutures were applied, and, after six weeks the wound was healed. This method was preferable to the one practised by Carnochan, as it gave ample room for manipulation, and a very clear insight.—*New York Medical Journal*, September, 1882.

Operative Treatment of Ozæna.—Ozæna is often due to a contraction of the nasal cavities, whereby the free passage of air and thorough washing out of the secretions are prevented. In order to overcome this, Volkmann removed, with a chisel, a portion of the middle turbinated bone in two young girls suffering from this affection. Great improvement resulted.—*Deutsches Med. Woch.*, August 19, 1882.

Some Recent Developments in Antiseptic Surgery.—To those whose acquaintance with antiseptic surgery dates back to the time when the carbolic dressing of Lister was first introduced, and can remember the rigid ritual enjoined in its use, the last substance added to the surgeon's armamentarium must be the source of some quiet amusement. It appears that, about two years ago, a man applied to Dr. G. Neuber, assistant in the clinic of Prof. Esmarch in Kiel, with the story that, eight or ten days earlier, he had suffered a severe accident to the forearm, which had resulted in extensive laceration of the soft parts, rupture of the wrist-joint, and fracture of both bones of the forearm. The first dressing applied to this severe compound and complicated fracture was a thick coating of mould from the moor on which the man was at work. After burying the limb in this, a rough wooden splint was applied. When, ten days later, the man came into Kiel, he appeared to be in good general health; and, after the astonished surgeons had thoroughly removed the whole of this primitive dressing, they found that the wound was free from suppuration—in some parts already united by first intention, in others granulating in a satisfactory manner. Struck by this brilliant result, Dr. Neuber proceeded to investigate the antiseptic qualities of turf-mould. These qualities were already being recognized in other quarters. It had been found that the turf, which is of a remarkably fibrous and friable character, acted as a powerful deodorizer of fecal and other like offensive substances. A series of experiments in the use of the mould as a surgical dressing were made, and the experience gained may be thus summed up. The turf-mould reduced, as we gather, to a powder, is enclosed in gauze bags which have been thoroughly washed in carbolic acid solution. The bags are made of two sizes, and the mould in the smaller is mixed with iodoform in the proportion of 2.5 per cent.; the mould in the large bag is saturated with a solution of carbolic acid (5 per cent.). In applying the dressing, the wound is first washed with carbolic or with chloride of zinc lotion, or powdered with a little iodoform. The small bag is then placed over the wound; over that a large bag is adjusted; and both are retained in place, and an equable pressure kept up by a gauze bandage. The dressing was used by Prof. Esmarch in fifty-five cases, among which were included seven resections and osteotomies, five amputations, twelve extirpations of tumors, and two herniotomies. The results were most satisfactory. The only death was in a case of advanced tabes dorsalis, where the operation of nerve-stretching was followed by pyæmia. In thirty-one cases there was no fever at all; in only five cases was it necessary to remove the dressings, owing to either local or general disturbance; and, as a rule, they were left in place for a fortnight. The advantages claimed for the mould are, briefly, that its absorbent power is so great that wounds remain perfectly dry under its use; that it absorbs the products of decomposition, and probably checks their formation; that the pads are very soft and elastic, easily adapting themselves to the surfaces of the limbs and trunk; and that, finally, turf-mould affords the cheapest known antiseptic, since it costs only about one-ninth as much as carbolic gauze (Listerian) dressings. In a second communication, Dr. Neuber gives the results in a second series of cases, among which were instances of ovariotomy, hysterotomy, and operations for floating kidney. This second series of seventy-eight cases resulted in but three deaths, due respectively to tetanus, to delirium tremens, and to gangrene of the leg after resection of the knee in a "bleeder." Where it is proposed to leave the dressing undisturbed for a fortnight or more, Dr. Neuber applies glass bandages externally.—*British Medical Journal*, August 26, 1882.

Hystero-laparotomy during Pregnancy from a False Diagnosis.—Reimann (*Centralb. f. Gynecol.*, No. 15, 1882) reports the case of a Jewess, aged thirty-two

with a tumor which the attending physician diagnosed as ovarian. At the first examination, he thought he detected signs of pregnancy, but later could not find them. A surgeon was called to operate, and after careful examination did so, supported by two statements, first, that of the woman that she had had no connection with a man for over a year, and second, that of the assistants, who (falsely) stated that the physician had introduced a probe, and found the uterus not enlarged. The operator made a small abdominal incision, introduced two fingers, and as there were no adhesions, punctured the supposed tumor, when, to his astonishment, there was a gush of liquor amnii, and on introducing the finger, parts of the child in utero could be felt. There was no longer any doubt. The uterus was laid open, its contents removed, and the wound sewed up. The child, eight months, lived about fifteen minutes. The mother died on the third day of peritonitis. The case has been brought to trial by court, and is not yet ended.—*American Journal of Obstetrics*, September, 1882.

ANTAGONISM BETWEEN SYPHILIS AND VACCINIA.—In the *Gazette Hebdomadaire*, M. POLIN, a public vaccinator in one of the military districts, states that in nearly every instance in which a child suffers from hereditary syphilis, vaccination will fail.

ERGOTINE IN TYPHOID FEVER.—The treatment of typhoid fever by the subcutaneous injection of ergotine, as recommended by Dr. Dubonè, continues to be noticed in *Le Journal de Médecine et Chirurgie*. The last case described is of a young woman, three to four months pregnant, in whom the treatment was begun on the eleventh day of the disease, when there was much tympanites, diarrhœa, bronchitis, and dyspnœa, and when continuous delirium had given place to semicoma. The morning temperature was 104° F. Ten centigrammes of ergotine were injected daily for six days. The first injection was followed by a copious general papular eruption of the size of a millet seed. The temperature fell to 101.5° F., and did not again rise above 103° F. The other symptoms underwent corresponding amelioration, and the temperature became normal on the seventeenth day of the disease.

Four days after the discontinuance of the ergotine the patient aborted without any unfavorable symptoms. The fact that the abortion in this case took place so long after the omission of the ergotine, and the history of another case in which one and a half to two grammes of ergot were administered daily for two weeks to a pregnant woman without causing miscarriage, seem to confirm the harmlessness of this drug to persons who are pregnant.—*Boston Medical and Surgical Journal*, August 31, 1882.

SUDAMINA IN TYPHOID.—M. ALBERT ROBIN has examined the liquid of sudamina in a case of typhoid fever, in which the eruption was so abundant the vesicles were confluent, and formed bullæ of considerable size, some of them being as much as a centimetre in diameter. More than three grammes of liquid were collected from them. It was transparent and colorless, but on standing, a deposit formed, consisting of whitish flocculi, and at the same time the liquid became opalescent. It had a slightly acid reaction, and a strong, unpleasant odor. The microscope showed only a number of fine globules of fat and some epidermic cells. It contained neither albumen nor sugar, and was not rendered opaque by the addition of alcohol. No uric acid could be discovered in it by the murexide test. An analysis showed that it contained a considerable quantity of chlorides, but no trace of sulphates or phosphates; the proportion of water was 982, of solid matter 18, per 1000: the solids consisting of 14 parts of organic and 4 of inorganic substances. Hence the amount of organic material eliminated by the perspiration in typhoid must be regarded as considerable.—*Lancet*, August 26, 1882.

HERPES OF THE HANDS AS A MENSTRUAL ERUPTION.—JANOVSKY and SCHWING (*Centralb. f. Gynecol.*, No. 17, 1882) report the case of a woman, unmarried, thirty years old, who had always had difficult menstruation from her fourteenth year; in 1873 had inflammation of the internal genitals, after which, to 1880, she was perfectly well except a deep-seated pain in the right side. At the end of 1880, patient came under author's treatment on account of renewed, severe difficulty of menstruation. Right-sided ovaritis was diagnosed and greatly benefited by treatment. In April, 1881, on the second day of menstruation, a skin affection began on both hands, accompanied with sharp burning and itching and slight constitutional disturbance. On the palmar surface of both hands, especially the left, the skin was red and swollen. This was limited strictly to the palmar surface and bounded by the wrist-joint, the tips of the fingers, and the middle line between palmar and dorsal surfaces. The diffuse swelling lasted one and a half to two days. On the then paler skin little vesicles appeared, as large as pin-heads, isolated, or only in parts confluent. Gradually they filled up, their contents became purulent, they dried into crusts and dropped off. The whole process, which was quite severe, lasted a month. Four menstruations passed without its recurrence. In September it came on again, much lighter, again more marked on the left hand. This lasted two weeks. At the next menstruation only the left hand was affected. For five periods it remained away, and in May of this year again appeared, and again especially on the left hand.

The eruption is a herpes. There was no herpes of any of the membranes and no neuralgia accompanied it. The authors have seen many exanthemata connected with menstruation, and especially a symmetrical erythema papulatum on the flexor surface of the upper and lower extremities, and in this connection they consider the present case of interest.—*American Journal of Obstetrics*, September, 1882.

THE SUBCUTANEOUS ADMINISTRATION OF CATHARTICS.—A. HILLER has made a number of experiments, with a long list of cathartics, and concludes that the hypodermic method possesses no advantage over the internal administration of cathartics, either in the dose required, the time required or in the avoidance of disagreeable symptoms.—*Centralb. f. die Med. Wissen.*, August 19, 1882.

DISLOCATION OF THE CERVICAL VERTEBRÆ, WITH SPONTANEOUS REDUCTION, AND FRACTURE OF THE STERNUM.—At a recent meeting of the Clinical Society of Maryland, DR. MICHAEL exhibited specimens from a case of dislocation of the cervical vertebræ with spontaneous reduction and fracture of the sternum without external manifestation, in the same patient. The subject of the injury was an Italian seaman, æt. 40, who fell into the hold of a vessel. Paralysis ensued below the level of the nipple. There was intermittent priapism persisting until near the end. Nothing was discovered along the spine to indicate lesion there, but there was evidently a grave lesion of the cord. There was no tender spot on the vertebræ, but pain was complained of in the cervical region. Respiration was carried on entirely by the diphraghm. Death ensued on the third day. *Post-mortem:* No lesion found up to cervix. There had been a dislocation of the fifth on the sixth cervical vertebra which had been reduced in the movements of the patient. The anterior common

ligament was disconnected from the sixth cervical vertebra, the ligamenta subflava were destroyed; the intervertebral substance between the fifth and sixth vertebræ was entirely destroyed. The cord was inflamed and compressed and its lower part congested. The sternum was found fractured on its posterior surface where the periosteum was ruptured; anteriorly the periosteum was not ruptured. There was no evidence of injury of the sternum during life. The lung had been lacerated and the mediastinum was emphysematous. The urine had to be drawn with a catheter.—*Maryland Med. Journal*, Sept. 1, 1882.

Curious Malformation of the Ureter.—In the *Lyon Médicale* for June 4, 1882, M. Soller reports a remarkable case of incontinence of urine that came under observation in M. Laroyenne's service at the *Clinique des Maladies des Femmes de la Faculté de Médecine de Lyon*. The patient was a girl, eighteen years old, who was found to have a supplementary meatus urinarius, situated below and to the right of the normal meatus. A small catheter could be introduced about 10 cm., and a few drops of normal urine escaped through it, although at the time the bladder was full of urine, which the patient was able to retain. The dropping from the supplementary channel continued after the bladder was emptied with the catheter. A strong solution of fuchsin was injected into the bladder, but the urine which continued to drop from the abnormal meatus was not colored, and analysis showed it to be absolutely normal. The opening was closed temporarily with a catch-forceps, and, on removing it the next day, a considerable quantity of urine escaped, being projected in a jet to a distance of more than 15 cm. In view of these facts, M. Laroyenne diagnosticated an abnormality of the right ureter, which, he supposed, either pursued its course direct to the false meatus, or else bifurcated before penetrating the bladder, and sent a branch to the locality mentioned.—*New York Medical Journal*, September, 1882.

Electrical Stimulation of the Uterus.—The influence of electricity on the uterus, whether empty or gravid, is a point on which authors have made various statements. This difference of opinion may be due to the circumstance that the conclusions have been drawn from the somewhat uncertain field of clinical observation. M. Dembo, in a note presented to the Académie des Sciences by M. Vulpian, has endeavored to decide the question by experiments on animals. His observations at present relate only to the non-gravid condition. In the rabbit direct faradization of the uterus or of one of its cornua causes a contraction at the point to which it is applied, and which extends for a distance of about twenty millimetres, but never reaches the other cornu. If one electrode is applied to each cornu, both can be made to contract in the neighborhood of the poles, but not in the interval between them. Very different, however, is the effect when the application is made to the vagina. If both electrodes are applied to the vesical wall of the vagina, a manifest contraction is produced in both parts of the uterus, vermicular in character, passing from below upwards. If the application be made to the lateral portions of the vaginal wall, a contraction is produced only in the corresponding cornu. Local contractions on the corresponding side can be produced by placing the electrode on certain points in the broad ligament, but the contraction never extends to the whole uterus. It is impossible to produce contraction of the non-gravid uterus by faradization applied through the abdominal wall. The excitability of the uterus of the rabbit was found to vary according to the age of the animal, and according to whether it had borne young or not. That of a young animal is so irritable that manifest contractions are excited by mere exposure to the air, but in old rabbits the uterus is much less susceptible. In some dogs and cats no contraction of the empty uterus could be obtained by faradization, in others slight contractions with distinct pallor were produced. Faradization of the vaginal wall caused pallor of the mucous membrane, and also of the whole uterus, due apparently to contraction of the vessels, but no contraction of the substance of the uterus. Frankenhauser found that stimulation of the aortic plexus caused a manifest contraction of both cornua, and it is highly probable that an analogous nervous plexus is situated in the vesical wall of the vagina. The observations were made on animals under the influence of either chloral or curara.—*Lancet*, August 26, 1882.

Iodoform After-treatment and Permanent Irrigation in Gynecological Operations.—Schucking (*Centralb. f. Gynecol.*, No. 13, 1882) believes that iodoform stands in the first rank as an antiseptic for the after-treatment of wounds in gynecological operations. Its energetic, continued, and yet unirritating disinfective action, its easy application to regions where Lister's method is impossible, the fact that under its use the wounds, especially in plastic operations, may be "left alone" for a long time, all render it an important acquisition to our pharmacopœia. It can never do away with the use of antiseptic methods during operations, or undermine in any degree the necessity of Lister's full process. In all Schücking's cases, Lister's method has been carried out in full, and the wounds were washed with a five per cent. carbolic solution before the application of the iodoform. In three prolapse operations in which the vaginal wounds were extensive, the surface of the wound was brushed with iodoform, and then ten to fifteen grms. of the powder shaken into the vagina and allowed to rest quiet for three days, when irrigation was begun. After enucleation of a large uterine fibroid, the whole wound was stuffed with iodoform and cotton. In a laparotomy, the stump was covered with iodoform, and three to four grms. allowed to get into the abdominal cavity. The patient remained free from fever, and in two weeks left her bed. Other cases show that there is no danger of absorption of the remedy. In some cases the drug was used in the form of suppositories made by the formula of Mikulicz (iodoform 90, solution of gum and glycerine āā 5). These were especially useful in abscesses, cancer of the cervix, etc. The terrible smell of the drug can be entirely covered by tonka bean, or, better, by cumarin, a very small quantity of the latter being sufficient to deodorize a large amount of iodoform. The pulse is slightly accelerated by the use of the drug. In conclusion, too much must not be claimed for or expected of the drug, but with other methods carefully carried out it does us great service.

Schücking has devised an apparatus to make permanent irrigation more simple and more applicable to general practice, where the use of bed-pans, the wetting of the bed, etc., have been almost insuperable objections to it. It consists of a sort of short speculum, closed externally, except three small openings. Through the upper of these passes a finely perforated metal catheter, which lies in the vagina and is connected by a screw to the speculum—through the next a short tube to the interior of the speculum. Both of these join externally, and are connected to the irrigator by rubber tubing. The lower opening has a short tube externally, which is attached by tubing to the drip pail. In this way but little water escapes in the bed. Irrigation is usually begun with solution of carbolic acid, but when this (as is generally soon the case) has to be given up, the au-

thor prefers a ten per cent. solution of sulphite of soda. —*American Journal of Obstetrics*, September, 1882.

EXPERIMENTAL INOCULATION OF SYPHILIS IN THE IRIS AND CORNEA OF THE RABBIT.—Previous experiments by HAENSELL and others have established the fact that the introduction of tuberculous matter into the anterior chamber of the rabbit will cause an eruption in the iris of tubercles identical in appearance with the tubercular growths which occur in the human iris. The author has now (*Von Graefe's Archiv*, xxvii., 3) made similar experiments with syphilitic matter, for the sake of comparison between the two morbid processes.

The cornea and the anterior chamber were inoculated in different experiments with the thin purulent contents of a syphilitic gumma of the sternum, with small portions of mucous tubercles of the anal region, and with similar portions of an indurated but non-ulcerated prepuce. Immediate inflammatory changes occurred in some cases, presumably from the introduction of septic matter together with the syphilitic virus, but the process of the syphilitic infection was clearly traceable notwithstanding; it was most characteristic, however, when these extraneous effects were absent.

Four days after inoculation of the anterior chamber, absorption of the foreign substance was complete, and the eye had apparently recovered its normal state; then, after an incubation of about four weeks a subacute iritis set in with turbidity of the aqueous, ciliary injection, discoloration and swelling of the iris, and posterior synechia; some days later vascular nodules appeared upon the iris, such as are seen in syphilitic iritis in the human subject. In one case, at a later period of the disease, larger nodules formed in the ciliary body; these, on account of their larger size and late appearance, may be regarded as true gummata.

After inoculation of the substance of the cornea the period of incubation was rather longer; at the end of six weeks, when only a slight opacity at the site of the puncture remained, several small vascular nodules began to develop.

Post-mortem examination of the animals some months after the inoculation showed in some cases many small hardish nodules in the lungs and liver, which under the microscope were found to consist chiefly of round cells and larger many-nucleated epithelioid cells, together with a few giant-cells.

The differences observed between the syphilitic process and that which followed the inoculations of tubercle were these: the incubation-period of the syphilitic virus was longer than that of the tubercular, and the whole course of the disease much more chronic in character; the syphilitic nodules were finely vascularized throughout, while the tubercular masses were devoid of vessels; the syphilitic never underwent caseous degeneration, while in the tubercular this constantly occurred.

The products of this syphilitic inoculation were found to be capable of successful inoculation upon other animals.

Attempts to inoculate the anterior chamber of the rabbit with lupus failed.—*Ophthalmic Review*, Sept. 1882.

ACTION OF QUINIA AND SALICYLIC ACID ON THE EAR.—In order to ascertain whether the noises in the ears produced by salicylic acid and by quinine are due to a congestion of the labyrinth, Dr. KIRCHNER has instituted some experiments in the pharmacological laboratory at Würzburg. The noise in the ears is sometimes accompanied by giddiness and deafness, which, usually ceasing when the medicine is discontinued, sometimes persists as a serious malady. Kirchner employed in his experiments rabbits, cats, dogs, and guinea-pigs. His conclusions are that both these agents cause hyperæmia of the tympanum, which may go on to hemorrhage, and that the whole of the labyrinth participates in the congestion. It may become so intense that, if it lasts long, it will cause of necessity an alteration in the nerve filaments, and it may lead to exudation. This congestion he regards as produced by a vaso-motor mechanism. In this conclusion, however, another series of observations made by Weber-Liel and Guder does not agree. They observed carefully the symptoms produced in certain healthy individuals by a moderate dose (fifteen grains) of quinine, and noted, during two hours and a half, a gradual fall in the temperature of the external auditory meatus, corresponding to the diminution in the general temperature of the body. No hyperæmia could be detected in the meatus, the membrana tympani, or the handle of the malleus, either during this period or later. On the contrary, in five cases a slight hyperæmia which existed previously was found to disappear. The subjective noises in the ears come on at the end of an hour or an hour and a half, and continue for ten or twelve hours, while the deafness comes on one or two hours later than the tinnitus, and is greatest at the time that the general temperature of the body is lowest. Similar experiments were made with salicylic acid. Four or five grammes of salicylic acid caused a diminution in the temperature of the external auditory meatus, which falls in the course of two or three hours to 95°. No indication of congestion could be discovered, and, as in the case of quinine, previous hyperæmia became lessened. Noises in the ear came on later and lasted longer than in the case of quinine. The deafness is very marked, and continued in some instances for several days, and in some cases, in which there existed previous ear disease, the loss of hearing was more prolonged, enduring in one case for nine months. In more than half the cases giddiness came on a little after the subjective symptoms. Comparing the effects of salicylic acid and quinine, it appears that the former causes a less considerable depression of temperature and a more prolonged diminution in hearing. It is difficult, therefore, to ascribe the aural effects either to congestion or to anæmia, and if these observations are reliable, it would seem to be due to a primary nervous influence.—*Lancet*, Aug. 26, 1882.

THE TREATMENT OF INTUSSUSCEPTION.—In the September number of the *New York Medical Journal and Obstetrical Review*, DR. W. R. GILLETTE, Physician to Bellevue Hospital, relates a case of intussusception in a child nine months old, relieved by injections of water, the administration of chloroform by inhalation, and manipulation of the tumor felt through the abominal wall. This, he states, is the third case of intussusception in infants which he has seen, and which he has been able to reduce by these means. He thinks that these cases, from the philosophy of their condition, and the necessary measures for relief, are best managed in the way indicated. In two other instances, in which he saw and advised this treatment, reduction was utterly impossible under the other methods tried. The children in each of these cases were held while struggling, and the injections forced into them against all voluntary and involuntary efforts which they could make. He deems the administration of chloroform almost absolutely necessary in these cases. The reason is not difficult to find, inasmuch as, while it gives us such perfect control of the patient, it also eliminates the element of muscular spasm. Moreover, massage is a powerful adjuvant to the hydrostatic pressure of water in these cases. In the first two cases the obstruction was not overcome until massage also was employed.

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SEA-BATHING.

ANY one having the least acquaintance with life at the sea-coast feels quite competent to guide himself, and to advise others, concerning sea-bathing. This general confidence of judgment is by no means justified by the results—for every year lives are lost, and the foundation laid for future ill-health, by injudicious resort to sea-bathing. A sad illustration of this fact was recently narrated to us by an experienced physician practising at a sea-coast summer resort. A delicate boy of eight was sent by his physician from the interior to the coast to be braced up by contact with the ocean waves. On the evening of the arrival of the party with the child at the sea-shore, he was taken into the ocean, notwithstanding the temperature of the water was down to 47° Fahr. The child was violently opposed to the bath, but, notwithstanding his shrieks and protestations, was immersed repeatedly. When taken out of the water at last the poor boy was blue and cold, and presently became cyanosed; his pulse grew feeble and irregular, his respiration shallow, and reaction failed to come on, death ensuing in a few hours.

Although the instance just related is an extreme one, it is certain that many cases occur in which the reaction from the bath is ineffectual, latent diseases excited into activity, and various morbid states induced. It is equally certain that great good is accomplished by the right use of sea-baths. It is, then, most desirable to have a clear conception of the physiological effects of sea-bathing, of its limitations, and of the rules to be followed in applying such a remedy.

Without entering into details which possess no novelty, it may be said that a sea-bath is a cold-bath, plus the influence of the place, the air, the shock, etc. To retire to the sea-shore is to cut loose from accustomed associations, and to create new ones under novel conditions. At the sea-shore the air is more stimulating, and the animal sense of existence—the mere delight of life and being—is enhanced. The out-door amusements, the stimulating air, ocean pleasures, increase the appetite, and the power of digestion and of assimilation grows correspondingly. Oxidation in the organism is more rapid and efficient, and hence the forces of life in all directions receive a new impetus. Such conditions are most favorable to the influence of the sea-water. On the peripheral expansion of the sensory nerves, the cold sea-water makes a fierce impression; the vessels suddenly contract; the heart is slowed; the skin is blanched; the lips are blue, because of the imperfect respiration, and oxygenation of the blood; and the breathing is shallow, catching, and incomplete. The blood retires from the periphery and accumulates in the internal organs, and lowered by the abstraction of heat from its superficial layer, the temperature of the whole mass of blood descends below normal. Presently a change in the condition of the body ensues. In from five to ten minutes, according to the constitutional vigor, the reaction comes on. Then the respiration becomes free, full, and easy, the circulation grows active, the contraction of the superficial vessels is replaced by dilatation, the blanched surface gives way to a warm flush, the blue of the lips is supplanted by a deep carnation, and the coldness yields to warmth, the surface temperature of the body rising. If the bather leaves the water when the reaction is fully established, he experiences a grateful glow—a sense of warmth and well-being—tranquility of mind, drowsiness, and a feeling of contentment and comfort, growing out of the more active performance of the organic functions. Sea-bathing we may well regard as a powerful reconstituent or tonic remedy, when the circumstances are favorable, and no contra-indication exists.

The good results which may be obtained from sea-bathing, are not more conspicuous than the evils which arise from its abuse. The contra-indications are obvious. Those ought not to undertake sea-bathing who are not strong enough to react promptly. If the reaction is slow, the good to be obtained is more than doubtful. If the reaction is imperfect, more or less depression of the vital forces must follow—for the rapid abstraction of heat, the lessened movement of the heart, the jerking and shallow breathing, are not compensated for by the increased heat production, the deeper respirations, and the quickened circulation of the blood which follow the

first period of depression on entering the water. Those who experience ill results from imperfect reaction, suffer from occipital headache, backache, and muscular soreness generally; the appetite becomes poor, the digestion feeble; they sleep poorly if they do not get into a condition of wakefulness, and ultimately grow into an anæmic state with much bodily weakness.

A weak heart from fatty walls or dilatation of the cavities, is a serious contra-indication of sea-bathing. On entering the water, the surface blood, having lost some of its proper heat, is suddenly precipitated on the heart, inducing, it may be, a prompt paralysis of the organ. Atheromatous cerebral vessels are equally dangerous, for when the superficial arteries contract, the intra-cranial blood pressure rises in a corresponding degree. An instance of remarkable lack of judgment on the part of a physician, recently came under our observation, *apropos* of this subject. A gentleman of sixty-five having well-marked atheroma of the vessels, and who had experienced a short time before an attack of thrombosis of a cerebral artery, followed by right hemiplegia, was advised a course of sea-baths at a point on the coast where the temperature of the water is always low! Fortunately the patient had a well-grounded apprehension that some mischief would result, if he carried out the advice given him, and refrained from bathing.

A sea-bath should not be entered soon after a meal, and it is equally injurious after a long fast. The body should not be heated by active exercise, just before entering the water, and a state of bodily fatigue is not less hurtful. Some moderate walking exercise, to call out the energy of the cardiac and respiratory centres, is useful as a preliminary. Only the most vigorous persons, accustomed to the sea, should plunge at once into the water, immersing the whole body. The less vigorous should content themselves with a gradual immersion. Active movements, as far as practicable, should be carried on whilst in the water, and when reaction is fully established the time has come for leaving the bath.

Sudden and unexpected deaths in the water are by no means uncommon. We hear of expert swimmers, in good health, seized with some surprising disability, and sinking unobserved or failing without apparent cause, before rescue can reach them. The condition known as "cramp" may explain some of these instances. When the muscles are kept in vigorous action in such a medium as sea-water, they labor under a tremendous disadvantage. The heat of the body is continually and rapidly abstracted; the superficial portion of the blood cooled, the action of the heart is thereby depressed, and the nervous centres in general perform their functions less energetically in consequence. Sudden paralysis of the muscular system might, under such circumstances, readily occur. Some of those in apparent health, who indulge in sea-bathing, have damaged organs, weak hearts, adherent pericardium, atheromatous vessels, etc., morbid states of the existence of which they may be entirely unconscious. The shock, the depression, and the reaction, awake the unsuspected malady to a sudden activity. Sudden deaths, unaccountable as they appear, are thus explained.

In suitable cases sea-bathing renders an incontestable service. That lowered condition of the vital forces due to sedentary habits and an indoor life, is greatly improved by sea-bathing. In no state is this remedy more conspicuously serviceable than in chronic malarial poisoning with the attendant phenomena. In simple lithæmia sea-bathing promotes oxidation and the elimination of the products of waste. The group of strumous diseases, incipient phthisis, if there is strength enough for vigorous reaction, nervous dyspepsia, simple wakefulness without cerebral lesion, etc., are amongst the maladies in which the best results may be expected from sea-bathing.

CONVALLARIA MAIALIS.

MUCH attention has recently been excited in France over publications made by MM. VULPIAN and SÉE, in regard to the remarkable properties of an alkaloid obtained from *Convallaria maialis*. This is a beautiful annual plant, belonging to the asparaginaceæ, and its common name is "Lily of the Valley." According to Huseman, Valx, so long ago as 1830, isolated two glucosides—*convallamarine* and *convallarine*. In 1865, Stanislas Martin obtained an alkaloid *maïaline*, and an acid, *maïalic acid*, an essential oil, coloring matter, etc. The active principles seem to be maïaline and convallamarine, the other glucoside being inert or nearly so. The extracts of the root and of the leaves have emeto-cathartic properties. The preparation with which the experiments of Prof. G. Sée were made, after many investigations by Hardy, consisted in an aqueous extract of the different parts of the plant, from which the purgative resinous principle was removed. This extract is solid, of a brilliant black color, agreeable odor, very bitter taste, and soluble in all proportions in water and alcohol. The ordinary dose of this extract used in the treatment of cardiac affections is 50 centigrammes (about 8 grains). Hardy has obtained convallamarine in the amorphous state, and, thus prepared, it is a principle comparable in activity to pure digitaline, which it resembles in its mode of action, although there are differences.

Convallaria is readily taken, does not produce nausea, and rather stimulates than depresses the

appetite. The evacuations are somewhat more numerous, although diarrhœa does not occur. On entering the blood, it has an immediate effect on the heart, the vessels, and the respiration. It slows the heart by exciting the cardiac terminations of the vagus, but the irritability of the inhibiting nerve is not lost, for electric excitation of the vagus still arrests the movements of the organ. It increases the blood pressure, whilst it augments the power of the heart. It increases the depth of the inspirations, and improves the sense of respiratory well-being. Its diuretic action is prompt and considerable, and, after it is discontinued, the increased action of the kidneys is maintained for several days. The relative proportion of the urinary constituents is maintained at the normal standard.

Notwithstanding its remarkable action on the heart, convallaria does not disturb the functions of the nervous system in any way.

According to Prof. Sée, the indications for the use of this remedy are—

Palpitations, which are due to depression in the functions of the pneumogastric nerve;

Simple irregularity, with or without lesions of the valves, or orifices, or with or without hypertrophy;

Mitral obstruction, uncompensated, and mitral insufficiency, especially when there is a venous stasis in the lungs and dyspnœa, with or without neuroses of the respiratory organs;

In dilatations, with or without hypertrophy or fatty degeneration, or sclerosis of the muscular tissue;

Finally, in all cardiac affections accompanied by general œdema or dropy. It does not long remain in the system, and hence there is no danger of accumulative action. Prof. Sée regards it superior to digitalis in all of the conditions above mentioned, especially as it does not distress the stomach, and affect the cerebral functions, and does not exhaust the irritability of the inhibiting apparatus.

At the meeting of the Therapeutical Society of Paris, of July 12, some additional facts, supporting the statements of Prof. Sée, were reported by MM. Moutard-Martin and C. Paul, especially the remarkable diuretic property of the remedy in cardiac dropsy was brought out.

MEDICAL ADVERTISING.

APROPOS of the expulsion of a member from a Chicago medical society, for publishing his card in a newspaper and paying for it, the *Times* of that city proceeds to discuss medical advertising from a non-professional standpoint. It calls attention to the fact that no person in the community but a physician has his business, profession, or occupation mentioned on his visiting cards; that no one else expects to have them specified when he is introduced to a stranger; and that, with few exceptions, no one else designates them when he writes his name on a hotel register. It asserts that while the advertising columns of a newspaper are closed to the enterprising practitioner, the society columns are open, and his name, title, and residence can be given in full every time "he goes fishing, visits his mother-in-law, or sprains his ankle." He may also, with ethical propriety, according to the *Times*, write and publish communications on impurities in drinking-water, or on germ theories of disease; he may say how swimming-schools should be conducted, or discuss any other subject presumably of public importance; and he never forgets to sign not only his own name, but the name of his occupation and his place of business.

The *Times* argues, in more serious vein, that in a large city it is very desirable to know the names of physicians in particular vicinities, and the hours which they devote to calling on patients, and that no code of ethics should forbid a person the right to inform an intelligent public in relation to matters it desires to become acquainted with.

Such information is, however, in every large city easily attainable. The general directories and special lists of physicians may be consulted at any drug-store, and are much more complete than the advertising columns of a newspaper are ever likely to be.

Were there no other objections to placing professional and business advertising on the same footing, its tendency would inevitably be degrading, from the fact that, while the merchant or manufacturer may with all propriety and modesty call attention to the excellence of his wares, the professional man in doing so is glorifying himself—never considered a gentlemanly or a praise-worthy employment.

"Where boasting ends, there dignity begins."

As to the term "doctor," its restriction to practitioners of medicine and surgery, and its habitual use by them and by the public, as a distinguishing designation, is, to some extent, an Americanism, and is probably due to the fact that, while in this country, every respectable physician must be a doctor of medicine, the lawyer is not always a doctor of laws, and the clergyman is but rarely a doctor of divinity. Originally, a merely honorary appellation conferred upon certain masters of arts, it was extended first to law, and then to divinity, but it was not until the fourteenth century that, either in England or on the continent, it began to be conferred in medicine. It has not been monopolized by our profession here or elsewhere, nor employed for purposes of display, or gratuitous advertisement, but is simply an involuntary recognition by the pub-

lic of the absorbing nature of the practice of medicine, and of the devotion to it which is so almost universally manifested by its followers.

We may admit, however, that it is just possible that, as to some of its points, the *Times* had a glimmer of reason, and it might be well that medical societies should watch other than the advertising columns of the newspapers.

CHOLERA AND OTHER QUARANTINES.

THE Ottoman Board of Health has constructed a huge lazaretto for the accommodation of six thousand pilgrims, with hospitals, offices, staff of doctors, inspectors, etc., on the island of Kamaran. This island is about 150 miles north of Bab-el-Mandeb. It contains about forty square miles, has an abundance of good water, and is in every way suitable for a quarantine station. The regulations of the *Conseil International de Santé*, published June 20, 1882, require vessels to touch at the island for medical inspection, when, if there is no sickness on board, they are quarantined for five days, during which the pilgrims, their clothes and baggage, and the vessels are submitted to disinfection. But the suspicion of choleraic disease entails a quarantine of observation, lasting from ten to fifteen days, when, if no further developments occur, the pilgrims are permitted to proceed on their journey. With cholera present on the vessel, the hospital service is brought into requisition, and the quarantine prolonged until it is considered safe for the vessel to leave.

An institution of this kind is an obstacle in the westward pathway of cholera from which we, in America, will derive undoubted benefit. Lazarettos and quarantines began in the far East, and from the extent of the recently established station and the character of its rules it is evident that they have profited by experience. At the same time it is obvious that we have no great reason to consider ourselves advanced in matters of this kind, because New York quarantine guards the neighboring ports, or Ship Island acts as a diverticulum to the local quarantines of the Gulf. In progress of time, if our health boards are fostered, we may be able to repel the attacks of exotic disease. Year by year we are gaining experience, but we pay needlessly high for it. Next year Texas will probably organize a State Board, or make some arrangement to guard the line of the Rio Grande.

PETROLEUM IN DIPHTHERIA.

DR. LAMARRE, of Saint-Germain, has lately employed petroleum oil topically, with very encouraging results in an epidemic of diphtheria. Archambault has tried it in the Children's Hospital, but without any obvious advantage. In two severe cases it was used, with the result that one died and the other recovered. In the case which recovered there were albuminuria, engorgement of the cervical glands, and nasal diphtheria. Petroleum is a rapid solvent of the false membrane, and must possess distinct advantages under some circumstances. This fact, coupled with its antiseptic property, renders it a promising remedy, although its odor always renders its use disagreeable. It has accomplished sufficient results to justify its further use. We believe that it has been applied more or less in this country, but we are not aware of any published results of the treatment.

FIRE ESCAPES AGAIN.

SOME time since we called attention to the need of fire escapes for hospitals as well as other public buildings. We have just learned of a plan which seems to us so remarkably good that we call attention to it in the earnest hope that it may be widely adopted. In the Ontario Mill, now building by Mr. William Arrott, in Kensington, a tower is placed at each end of the building, and is used as the only means of access to the mill. No doorways or other openings exist between the mill and the towers, but all ingress and egress are by outside iron platforms passing around from the towers to the mill. These may be in the rear and so not be an unsightly feature.

The towers are capable of excellent architectural treatment, so as to add to the appearance of the mill instead of detracting from it; the operatives are accustomed to it by daily use, and have no new experiment to try when bewildered by fire, and it would seem to be entirely safe. It combines, so far as we see, all the advantages and none of the disadvantages of other plans, except that of being perhaps a little more costly than some of them.

For hospitals this would appear to be peculiarly adapted, both hygienically and architecturally.

THE TREATMENT OF ACUTE STHENIC PLEURISY.

DR. GUYON has recently tried the various plans of treating pleurisy on an extended scale, and his results are embodied in the following propositions:

Acute sthenic pleurisy must be treated energetically at the onset of the disease, as the expectant plan is dangerous.

The Arabic method, which consists in withholding all fluids, and using alterants to promote absorption, gives bad results.

Diuretics, purgatives, and sudorifics are uncertain measures, and do not in themselves constitute a method of treatment.

Applied at the beginning of the malady, wet cups suppress the pain, diminish the dyspnœa, and apparently arrest the progress of the exudation, and are

to be preferred to blisters, which are, indeed, contraindicated at this period of the disease.

When a marked degree of gastro-intestinal catarrh exists, emetics and cathartics are usefully added to other antiphlogistic measures.

The duration of an acute pleurisy treated by mercurials is relatively long, and the patient is exposed to unpleasant accidents.

During the febrile state thoracentesis should not be practised unless the effusion is so great as to endanger life.

If the medical treatment has been without result, it is well to puncture after the fever has ceased, and not depend on absorption, whether it be expected to take place spontaneously or under the influence of revulsives.

In view of the above, may we not inquire if it has been wise to abandon venesection altogether in cases of acute sthenic pleurisy? Have not effusions, serous and purulent, been more frequent and extensive since venesection has not been employed?

REVIEWS.

Mittheilungen ueber Fragen der Wissenschaftlichen Medicin. Von Wilhelm Koch in Dorpat. Heft I., Beiträge zur Lehre von der Spina Bifida. Papers on Questions in Scientific Medicine. Part I., Spina Bifida. 4to. pp. 62, pl. 5. Theodor Fischer Kassel, 1881.

The author enters very exhaustively into his subject both as to the pathology and the literature of the subject. The only wonder is that he did not also give a complete bibliography of the subject, which would have rounded it out. The style is obscure and difficult. Indeed, we have not run across so many obstacles in German for a long time as in this book. It is in five parts, treating respectively of myelocele or hernia of the cord, and dropsy of the subarachnoid space; congenital fissure of the vertebral arch, rachischisis posterior; anterior fissure of the vertebræ, rachischisis anterior; meningocele; and finally the treatment of those forms amenable to art, viz., myelocele, meningocele, and certain limited forms of fissure. He condemns the usual mode of reporting every form of such allied disorders under the generic name of "Spina Bifida," and especially in relation to treatment. Tables such as Wernitz's, in which no proper distinctions are made, are, therefore, practically worthless. Evidently he has little faith in Brainard's method of iodine injections, or of Morton's modification of it, and prefers, according to the case, plastic operations, exsection of a piece of skin, subcutaneous ligature of the neck of the sac, etc. For details the reader must wrestle with the original.

The New Hand-book of Dosimetric Therapeutics, or the Treatment of Diseases by Simple Remedies. By Dr. Ad. Burggrave. *Translated by* Henry Arthur Allbutt, M.R.C.P.E., etc. Pp. 208. With a Frontispiece—a portrait of Dr. Burggrave. London: David Bogue & Co.

We are asked to believe that the Dosimetric System is a new method. In the confines of 208 pages, Dr. Burggrave unfolds the mysteries of his "system," but when we have patiently examined the data given by him we find nothing new but terms. Instead of crude drugs, small and often repeated doses of active principles are used, but in their applications we discover no new facts or methods. If the book were put forward as an appeal for a more rational method of administering our remedies, the motive for its appearance would be ample. But under the present auspices, and supported by the high pretensions of its advocates, dosimetric medicine has a quackish appearance. The irregularity is still further apparent in the way in which the medicines are to be obtained. "No granules are genuine or reliable, but those manufactured by M. Charles Chauteaud, the eminent Parisian pharmacist," says Dr. Allbutt in his preface.

Whilst we have only commendation for all enlightened efforts to improve the administration of drugs, we must express our strong disapproval of the groundless pretension and false teaching of this work. Dosimetric, we doubt not, is an effort to offset homœopathic, and to curry favor by scientific pretensions which have no real foundation.

Colles's Fracture. By J. F. Knott, L. K. and Q. C. P. I., etc. A paper read before the Surgical Society of Ireland, January 12, 1881, and reprinted from *The Medical Press and Circular*. 8vo. pp. 25. Dublin: John Falconer, 1882.

The first thing that strikes us in examining this essay is the fact that the title is spelt right, and leaves no excuse for the careless but common mistake of calling this "Colley's" fracture. The next is the use of the inexact expression "from above and behind downwards and forwards," in describing the line of fracture. In speaking of the radius, this might be understood to be with the hand in extreme supination; but it would be better if authors used the unmistakable terms "palmar" or "dorsal aspect," especially as we observe that this one once uses the word "anterior" when the arm must be in pronation and the dorsal aspect of the radius in front.

Next we come upon a reference to the "*arch*" of a segment of a circle and its "*cord*." After which we enter a zone of French terms: "*coup d'œil*" and "*mouvement de la bascule*," with "lezarde or baillement of architectural ornamentation," and "*coup de hache*," fractures "*par écrasement, penetration* (no accents), and *arrachement*," together with deformities "*en Z*." Does the author not know how to put these into good English? or does he fancy the whole medical public has the same easy and familiar acquaintance with the French language which he appears to have? If not, is it to prevent the ignorant from feeling too much shamed that he prints "*abduction de totalite, en etoile*," etc., without accents, and over and over again, "*médicine*" for *médecine?*

So much for the manner of the author. His matter is quite different, and of such excellence that we regret to find it burdened with the lapses from good literary style to which we have alluded.

The substance of the paper is an account of the various views that have been held as to the nature and mechanism of fractures near the lower end of the radius. The author quotes Continental and American opinions, in addition to those of British writers, and concludes his review of the subject with this sensible observation: "An examination of all the facts and theories which we have collected on this subject will, we think, leave no doubt on (*sic*) the mind of any unprejudiced inquirer that a great variety exists in the form, and probably, also, in the mechanism of pro-

duction, of the fractures of the lower end of the radius. . . . I have not myself come forward as an advocate of any one hypothesis, for I do not believe that any one can be manipulated so as to adapt it to all cases; nor do I attempt to teach any new theory; for I think there is no room left for further innovation, and those with which we are already acquainted, if judiciously applied, will be found amply sufficient."

We would have enjoyed it more if a less meritorious paper had given us the opportunity to speak our mind freely against the use of foreign words when there are plenty of English ones just as good. At the same time we are glad to be able to make some amends for our criticism of the author by acknowledging the genuine worth of what he has written, and commending its perusal to the many young men now engaged in writing works on surgery.

CORRESPONDENCE.

LETTER FROM BRUGES.

Bruges, Memling, and the Hospital of St. John.

BRUGES is the Pisa of Flanders. It has receded from the sea, so to speak, and, like a stranded vessel, is being slowly consumed by the gnawing tooth of time. Its docks, where vessels once discharged curious cargoes from every foreign port, are dried up and covered in with houses; its various canals are choked with seaweeds; its once thronged streets, paved to last for ages with blocks as solid as those of Pompeii, now re-echo the rumble of the solitary vehicle, and the great open squares, upon which assembled the citizens of an opulent metropolis in rejoicing, in commiseration, or in vindication of their rights, are all deserted save by the peasantry in their quaint garbs, or the occasional traveller who hurriedly takes in Bruges on the way from Ostend to Brussels. One may thoroughly feel, but find it hard to describe the sense of desertion, the air of melancholy which pervades the place.

But the lovers of art must always pay a visit to Bruges to look upon the mediæval architecture of Flanders, which distinguishes this city more than any other in all the low countries, and more especially to study the history of painting in the works of the earliest masters of that art. Outside of the museums the old European traveller naturally looks for many of these wonderful works in the churches, and even the unbeliever must be grateful to the church, not only for the source of their inspiration both in matters of faith and finance, but also for their careful preservation through ages of vandalism and image destruction. But here in Bruges some of the very finest specimens are to be found in an entirely unexpected place, namely in the hospital. The story goes—pity that it is not true—that Memling was carried wounded to the hospital, and that he left all these marvellous works in gratitude for his restoration. But however they got there, here they are still as fresh as when they left the master's hands some four hundred and fifty years ago, and a handsome revenue they must make in the course of the year to the resources of an institution which really does not need it, as it is already so richly endowed.

One must speak of the pictures in attempting to describe the old hospital of Bruges, as it is impossible to get a proper idea of it, except from some of the pictures which portray it as it was half a thousand years ago. For the old hospital has been long since abandoned for a new one built next to it upon the grounds, somewhat, though not much, more modern in its style, a quadrangular structure containing twenty-four wards, with room for about six hundred sick, enclosing an open court which is pleasingly laid out in garden form.

How far back into time the history of the old hospital goes, nobody here seems to know. But here it stands now, on the outside at least, just as it was in Memling's time—a great irregular mass of buildings, like a venerable abbey, with turrets and towers, niches and shrines, crumbling, moss-grown, gray with age, but still in such preservation as to be good for a century or so to come. On the inside it looks like one of the old mediæval churches, enough like it to have been one in its day, with pillars and arches and pavements all of solid stone. Twenty feet from the floor the windows begin, and then run up arching at the top to the ceiling, with little panes of green glass like those in an old Gothic church. The beds, as is seen in one of the old pictures in the chapel or room in which the whole collection is shown, were arranged like the bunks in the steerage of a ship, in two rows, one above the other (the upper being arrived at by ladders), between the short pillars which support the heavy arches along the middle of the hall, and in two additional rows along the side walls. A more unwholesome, subterranean-like arrangement could not have been devised. But here it was that Memling, the great artist, was sick; for here he is shown in another picture engaged at his work, and being visited in state by Mary of Burgundy, with her maids of honor, who are in turn being regarded with admiration by the good sisters and brothers in charge of the house. These pictures are not regarded as works of any artistic merit, and are spoken of very slightly by the usher who can not understand the construction of a visitor who dwells upon them with many pertinent, which he evidently regards impertinent, questions; but these old pictures stowed away in a bad light are of far more interest to the medical historians than the shrine of Ursula and the slaughter by the brutal soldiery of the eleven thousand *virgines intactæ*, which it so graphically portrays. For these two old pictures complete the history of the old hospital, and it is fortunate that they still exist, for nobody about Bruges knows anything about the old hospital more than is contained in these few lines. The doctors here looked upon your correspondent rather as a kind of morbid specimen for evincing any curiosity about the old hospital building, and they could give no reference to any possible source of information. When I saw the iron rings in the operating-room for the reduction of dislocations still in use, and curtains everywhere drawn close about the beds in the present hospital wards, I was not surprised at the general Rip Van Winkle air which surrounds the place. At the library I had equal bad luck. There was a solitary antiquarian rummaging about the ancient literature, and he informed me that he did not think I could find anything concerning the hospital, unless among the musty archives of the church. This much, however, I did glean at last; that when the *sans culottes* of the French revolution came over and turned everything upside down, they took the hospital away from the church, and ever since that time it has been in the hands of the city government, which now appoints the hospital staff. But there is need of another revolution, a *bouleversement* as complete as the first, to bring the hospital at Bruges up to the standard of modern times.

J. T. W.

BRUGES, August 22, 1882.

VIRULENCE OF HUMAN SALIVA.

To the Editor of THE MEDICAL NEWS.

DEAR SIR: I am glad to learn from Dr. Formad's letter of August 1st (MEDICAL NEWS of August 12th), that the reporter, and not my esteemed friend, is responsible for the "inacurate statement" which I found it necessary to correct, in the interest of truth. Of

course, I have no fault to find with Dr. Formad for drawing his own conclusions from the experimental data which I have published, but I can not help thinking that his memory is at fault with reference to the facts recorded, and especially with reference to my own deductions from these facts.

I trust, however, that yourself and your readers will not imagine that in addressing you a second communication upon this subject, I am actuated by a controversial spirit, and propose to occupy your valuable space in an effort to prove the infallibility of the writer. This would, indeed, be a difficult and unprofitable task, as I do not myself accept any such dogma. But I do believe in the logic of facts, and, although well-attested facts often appear to contradict each other, I believe that such contradiction is only a superficial one, and that it may always be reconciled by a fuller knowledge, as *there are no contradictions in nature*.

The case of Dr. Formad's "buck-rabbit," which is "to-day perfectly well and happy" after having been subjected to a long series of experimental inoculations, is a case in point, and I think it may be made profitable to your readers by using it to call attention to the subject of protective inoculations, a subject of great interest to physicians and one which deserves to be fully studied by the experimental method.

But first permit me to answer briefly the points made by Dr. Formad in the following quotation from his letter:

"Dr. Sternberg was the first, etc. . . . . But his experiments are not extended enough to prove his conclusion that the lethal effects are due to a poison *peculiar* to the saliva; and, moreover, by no means warrant his deduction that only certain saliva has poisonous effects, and that some saliva lacks such properties, viz., does not kill rabbits."

I answer (*a*) that I have never claimed that the lethal effects of human saliva, upon rabbits, are due to a poison "peculiar to the saliva;" and (*b*) that my recorded experiments and the experiments detailed by Dr. Formad in his letter—case of the buck-rabbit—show conclusively that all human saliva is not fatal to rabbits. In my first report to the National Board of Health (*Bulletin*, April 3, 1881), I say injections of a small quantity of surface-mud from the gutters of New Orleans invariably produced fatal results within forty-eight hours.

In the report referred to I presented in detail the experimental evidence which led me to the conclusion that the virulence of human saliva is due to the presence of a micrococcus constantly found in the fluid. This conclusion is sustained by subsequent experiments made by myself and by the experiments of Dr. Claxton.

This deduction rests upon experimental evidence of the same kind as that upon which anthrax is proved to be due to a bacillus, fowl-cholera to a micrococcus (Pasteur), and septicæmia in the mouse to a minute bacillus (Koch). But I have not claimed and do not believe that the micrococcus found in human saliva, and to which it owes its virulence, is *peculiar* to this fluid. On the contrary, I believe it to be widely distributed in nature, and think it not improbable that it may be found in the saliva of animals. I should therefore be greatly indebted to Dr. Formad if he will publish in detail the experimental data which induce him to formulate the generalization that "*any and all saliva kills certain rabbits*." Certainly a very extended series of experiments is required to sustain this generalization. I am particularly anxious to know whether the saliva of herbivorous animals has been found as virulent as that of the carnivora; whether the saliva of monkeys is as virulent as that of man, etc.

I am not prepared to accept Dr. Formad's explanation, which ascribes the marked difference in the results of experimental inoculations to a difference in susceptibility of the animal experimented upon, rather than to a difference in the fluid injected. For I have ascertained by repeated experiments, made at different times and places, that my saliva kills rabbits infallibly within forty-eight hours, with certain exceptions which I have noted in my report of experiments with disinfectants.[1]

I quote from the last-mentioned paper: "I can no longer say *infallibly* produces death, as in several instances death has not occurred *in rabbits previously injected with saliva mixed with certain substances*—alcohol, quinia—*which when added to it in a certain proportion prevent the fatal results*, but do not prevent an impression being made by the mixed injection, which seems subsequently to protect the animal from the lethal effects of injections of saliva alone."

The following experiment is quoted from my report first mentioned in illustration of this statement:

"*May 24, 1881.*—Injected into a large rabbit (*the subject of a previous experiment*, May 13, in which a negative result was noted, and in which 0.5 c.c. of virus treated with 1 per cent. solution of sodium hyposulphite was injected) 1.25 c.c. of virus, not disinfected, from a rabbit recently dead. Result negative."

This virus—bloody serum from a septicæmic rabbit just dead—was proved by other experiments to be fatal to *unprotected* rabbits in the smallest quantity, but this animal suffered no harm from so large an amount as 1.25 c.c. Is it probable that the remarkable immunity shown by this animal, and by the buck-rabbit referred to by Dr. Formad in his letter, is due to an accidental idiosyncrasy, and that the previous injections had no importance. Dr. Formad records that his rabbit "*had been largely dosed by his friend Claxton, with saliva of some kind.*"

I would remark as follows upon the record given of this case:

"1. Human saliva (second time)." The first inoculation, or the previous inoculations by Dr. Claxton, accounts for the protection which this animal enjoyed from subsequent inoculations, and the fact that the animal did not die after the first injection of human saliva, is evidence in support of my statement that all human saliva does not kill rabbits.

"2. Cancer-juice." Numerous experiments made in Dr. Formad's laboratory, show that cancer-juice is innocuous. Dr. Wile reports as the result of twelve experiments, that "the animals were kept under observation for one year, and careful autopsies revealed no trace or effect of the injected juices.[2]

"3. Epidemic diphtheritic material from Michigan." Numerous observers have recorded the presence of micrococci in material of this kind, which appear to be morphologically identical with those found in the normal buccal secretions. May not this be a pathogenic variety of the common form, which has the power of penetrating mucous membranes, and giving rise to fibrinous exudation, and necrosis of invaded tissues, instead of remaining in the buccal cavity as a harmless parasite, nourished by the salivary secretions, and shed epithelium constantly present in this locality? If this is the case, we can understand how the previous injections of normal saliva protected this animal from suffering any ill-effects from this, and subsequent injections of diphtheritic material.

We have abundant experimental evidence that protective inoculations may be practised in various forms

[1] Nat. Board of Health Bulletin, July 23, 1881, p. 22, and in a paper published in the Am. Journal of the Medical Sciences, July, 1882, p. 73.

[2] Phil. Med. Times, Aug. 12, 1882, p. 771.

of septicæmia, *e. g.*, anthrax, fowl-cholera, swine plague;[1] and an "attenuated virus" (Pasteur) may be obtained by various methods, *e. g.*, method of Pasteur by long exposure to oxygen, method of Toussaint by short exposure to a temperature of 52° Cent.[2]

My own experiments indicate that in the form of septicæmia in the rabbit, which I have specially studied, various chemical agents, which in a certain proportion completely destroy the potency of the septic virus, may in a certain less proportion modify its virulence, and that thus an "attenuated virus" may also be produced, the introduction of which beneath the skin of the rabbit results in protection from the effects of lethal doses of unmodified virus.

But it is not necessary that artificial inoculation with "attenuated virus" should be practised in order that a rabbit may enjoy protection from infectious septicæmia. Accidental inoculation may occur, or the rabbit may suffer a non-fatal attack as the result of contact with other septicæmic animals, or from being placed in infected cages. Davaine[3] long since recorded the fact that spontaneous septicæmia occurred among his rabbits from this cause, and I have myself lost a number of rabbits in the same way,[4] while others of the same lot recovered after a brief illness, and subsequently proved to be protected from the lethal action of septic virus.

Finally, I would say that my conclusions have not been drawn from a small number of experiments, and that I have carefully compared the results obtained by myself from human saliva, *my own*, with those reported by Braidwood and Vacher, in which lochial fluid undergoing putrefaction and other septic material were injected into rabbits.[5] My experiments with disinfectants, alone, cost the lives of more than forty rabbits, and careful post-mortem examinations in nearly all of them fully confirmed the observations previously detailed in my first report (a fatal form of septicæmia, etc., *l. c.*) as to the presence of the micrococcus, the diffuse cellulitis extending from the point of inoculation, etc.

I have not yet found time to follow up the investigation relating to protective inoculations; but, as this is a question of great importance from a practical point of view, I take the liberty of making two or three suggestions for the benefit of those who may have better facilities for pursuing experimental work than I enjoy at present.

Will the introduction into the body of a susceptible animal of the chemical products evolved during the growth of septic organisms—Anthrax bacillus, bacillus of Koch's septicæmia in the mouse, micrococcus of fowl-cholera, micrococcus of induced septicæmia in the rabbit—furnish protection as well as a living "attenuated" virus?

Will an attenuated virus of any of these forms of septicæmia furnish protection against others in the list?

Will the hypodermic or internal administration of any of the known germicides cure an animal which has been inoculated with a lethal dose of a septic virus? and if so, in what quantity must such agent be used to produce the desired effect?

Yours, very truly,

GEORGE M. STERNBERG, M.D.,
Surgeon U. S. A.

FORT POINT SAN JOSE, SAN FRANCISCO,
August 26, 1882.

[1] Experiments of D. E. Salmon, D.V.M., Report to Committee of Agriculture, 1880, p. 489.

[2] C. R. Ac. des Sciences, t. xciv. p. 1694.

[3] Bull. de l'Acad. de Méd., 2 s., t. viii. p. 121.

[4] Experiments with Disinfectants, etc., *l. c.*

[5] Am. Journal of the Medical Sciences, July, 1882, p. 69.

A SPLINT TO REPLACE THE STROMEYER.

To the Editor of THE MEDICAL NEWS.

SIR: In your issue of August 26, I noticed under the head of *New Inventions*, a description of "a new splint to replace the Stromeyer," by Dr. W. W. Keen, of this city.

Six months ago I had a patient suffering from anchylosis of the elbow-joint, for the relief of which she had been using Stromeyer's splint. Although able to extend the arm with it, I found upon flexing that the splint produced so much excoriation of the skin and pain from pressure on the nerves and bloodvessels at the joint, that it was abandoned as useless.

I had a splint constructed that not only enabled me to flex the arm fully (a feature lacked by Stromeyer's), but remedied the trouble referred to. Instead of a hinge the boards are connected on either side by two pieces of iron riveted together, leaving a space of three inches between the two splints, thus relieving the joint of any pressure. To the arm-piece is secured an iron plate with a brass head, split and drilled through at right angles. To a plate on the forearm splint is connected a long eight-sided brass nut, held in place by a movable collar that enables the nut to accomodate itself to any angle. The screw, secured above by a pin, passes through the nut, and the latter by turning to the right or left, gives either flexion or extension, as may be desired.

Respectfully yours,

A. H. DE YOUNG, M.D.

PHILADELPHIA, 242 N. FIFTH ST.,
September 5, 1882.

NEWS ITEMS.

PUBLIC HEALTH NOTES.—THE YELLOW FEVER EPIDEMIC at *Brownsville* continues unabated. During the past week the bulletins have announced fifty or more new cases daily, with only two or three deaths. The small mortality is unprecedental in the history of yellow fever. As the population only amounts to about 5000, the disease must soon begin to die out for want of material. The non-intercourse quarantine and guard to prevent the escape of refugees from the infected district has succeeded in confining the disease, but those who have been cooped up to await the expected attack must have felt that these sanitary arrangements are somewhat one-sided. Many, no doubt, have camped out for safety in the adjoining country, as did the people of Memphis in 1879. The garrison of Fort Brown moved several miles up the Rio Grande and have escaped visitation. An early flight from the infected locality, termed by the sanitarians "depopulation," appears to be a good thing for those who are left, as well as for those who get away: the number remaining to be sick and cared for is reduced. The United States soldiers and marines at Pensacola embarked for Mt. Vernon Barracks, Alabama, on the day after the presence of the fever was officially promulgated. The navy-yard quarantined against the city, and late advices from Surgeon A. M. Owens, United States Navy, shows the quarantine to be effective.

The spark which smouldered in *Pensacola* from on or before the 28th ultimo, giving only one or two new cases daily, flamed up suddenly on the 7th inst., when ten cases were reported. This was followed by twelve on the 8th, and sixteen next day, when the city authorities proclaimed the disease epidemic. From the onset to the 11th inst. there have been recorded ninety-two cases and seventeen deaths. A heavy gale and rain storm prevailed on the 9th inst., but did not seem to have any special influence on the progress of the disease.

The City Board of Health continues its efforts to control the spread of the fever by disinfection and isolation. Application was made to the National Board of Health for coöperation and assistance, and estimates for services and supplies were made and forwarded to Washington on the 7th instant, but mail disinfection in Alabama delayed their arrival. We understand that they reached Washington this morning (12th instant), but we have not learned their contents.

The following weekly summary of the progress of yellow fever is furnished by the Surgeon-General of the Marine-Hospital Service, compiled from official reports for the week ending September 9, 1882:

BROWNSVILLE, TEXAS.

Dates.	Cases.	Deaths.
September 3d and 4th,	148	10
" 5th,	67	1
" 6th,	49	2
" 7th,	48	2
" 8th,	57	4
" 9th,	57	3
	426	22
Previously reported,	1,113	66
Total during epidemic,	1,539	88

The number of deaths at Brownsville on the 7th instant was stated in the daily report for that date at ten. The number was two. The incorrect figures were the result of a telegraphic error.

The protective cordon on the Arroyo and river has been effectual up to the present time, and the outer cordon will be dissolved in a few days, as ample time has been given for the appearance of fever between the lines. The ranches will each be inspected from the outer to the inner cordon by the quarantine guards. Authority is awaited from the Governor for the beginning of this work. The Arroyo cordon will be strengthened during the week and persons allowed to pass after ten days' detention and fumigation of clothing. An inspection station has been established at Santa Maria.

PENSACOLA, FLORIDA.

Dates.	Cases.	Deaths.
September 3d,	0	0
" 4th,	1	2
" 5th,	1	0
" 6th,	0	1
" 7th,	9	0
" 8th,	12	2
" 9th,	16	3
Total for week,	39	8
Previous cases uncertain,	0	5
Totals,	39	13

No measures have been instituted in Florida by the Treasury Department for the suppression of the disease, as it was only on Saturday that yellow fever was declared epidemic by the Pensacola Board of Health, and no request has been made for aid.

CHOLERA.—There are rumors at present of the occurrence of cholera in several of the large European cities, but they are probably based upon sporadic cases of virulent character simulating Asiatic cholera, such as have recently been reported in this country in Michigan and at Newport, R. I. The only specific advices which affect us in the United States, are from Yokohama, Japan, where the disease has been existing in an aggravated form since April 28th of this year. For the two weeks ending August 10th, there were 616 new cases and 345 deaths, making, since the commencement of the epidemic, a total of 2193 cases and 1362 deaths. A few cases have occurred among British sailors who have had liberty on shore, but with this exception the disease is confined to the native population. At Tokio and Osaka, the epidemic is equally virulent. Hitherto cholera has reached us from Europe, but the possibility of an attack on the other flank should be borne in mind by our California brethren.

THE ADDRESS OF PROF. GEORGE F. BARKER, of the University of Pennsylvania, on "The Question of Life," delivered before the American Association for the Advancement of the Sciences, has been translated into French, and published in the *Revue Scientifique*, for August 19, 1882.

GALEN'S WORKS.—An important literary and scientific discovery is announced from Salonica. The works of the celebrated physician, Galen, which were supposed to have been lost, have been discovered by M. Papageorges. They are in manuscript; date from the fifteenth century, and appear to have originally formed 248 sheets; 144 are in good condition, 24 are mutilated or worm-eaten, and 80 are missing.—*Brit. Med. Journ.*, August 19, 1882.

PERSONAL.—PROF. GERHARDT has been called to Heidelberg to fill the chair left vacant by the death of Prof. Friedreich.

PROF. ROSSBACH has been called to Jena in Nothnagel's place.

PROF. V. BERGMANN has received the title of Privy Medical Councillor, and PROF. BARDELEBEN the title of Supreme Privy Medical Councillor.

IMMIGRANT-INSPECTION SERVICE OF THE NATIONAL BOARD OF HEALTH.—DR. J. H. RAUCH, Supervising Inspector, presents the following report of the operations in the western district during the month of August:

An aggregate of 16,014 inspections were made by the seven assistant inspectors, who performed 3,125 vaccinations upon immigrants found to be either imperfectly or not at all protected by previous vaccination or attack of smallpox. This is in the ratio of about twenty per cent. of vaccinations, as against sixteen per cent. during the months of June and July.

It is not to be inferred from this, however, that the proportion of unprotected immigrants was larger than in the previous months. On the contrary, increasing evidence has been found, throughout the month, of greater care and vigilance on the part of steamship surgeons generally, and of some of the inspectors east of this district—notably at Port Huron, Michigan—and a much larger proportion of recent vaccinations has been met with as the result of this care and vigilance.

An analysis of the inspectors' reports shows the highest ratio (nearly thirty-eight per cent.) of vaccinations to inspections to have been made among immigrants arriving *via* Baltimore. And this is due to the cause indicated in the last report, namely, the neglect of surgeons of steamers arriving at that port to enforce vaccination, although there has been a very decided improvement in this respect during the past month, as will be seen in the comments of inspectors quoted below.

The smallest ratio of vaccinations to inspections—in other words, the smallest number of unprotected immigrants out of a given number arriving in this district—is that among passengers by the Grand Trunk Railway. Only three and a half per cent. of these were found to need vaccination by the Illinois inspector, that work having been thoroughly performed by the inspectors at Port Huron. The ratio on this road has steadily declined from 36 per cent. in June to 8.3 per cent. in July and 3.5 per cent. in August. During the latter

part of the month *all* of the arrivals by this road were found to be protected.

Of the arrivals in this district during the past three months, observations go to show that 54 out of every 100 immigrants were protected against smallpox before landing in this country, in one of the three following methods; 3 out of every 100 by previous attack of smallpox; 43 out of every 100 by a mature successfnl vaccination; 8 out of every 100 by a recent successful vaccination or revaccination performed on shipboard.

Taking the whole season throughout, only 22 out of every 100 steerage passengers have been vaccinated on shipboard, but this number is nearly doubled for the latter part of August, when it rose to 41 in every 100. Of the vaccinations by the steamship surgeons, 36.7 per cent. are now successful, but there are still nearly two-thirds failures in the aggregate.

Less than 4 per cent. of the arrivals in Chicago are found to have been vaccinated at all eastern points, exclusive of Port Huron; at this latter station nearly 36 per cent. of those destined for Illinois and westward are vaccinated.

In the western district, thus far, a little over 96 per cent. of the unprotected arrivals have been vaccinated by the inspectors within the district, before entering or crossing the State—the 3 or 4 per cent. escaping vaccination being composed of cases where contra-indicating conditions existed, or where the operation was refused.

The necessity for this mode of excluding imported smallpox contagion has received signal confirmation during the month by two local outbreaks of the disease in Illinois, which show that, notwithstanding all the efforts made to secure the proper vaccinal protection of the State, there are still localities where the introduction of the infection is sufficient to discover unprotected individuals enough to cause considerable alarm.

In Jersey County 8 cases and 1 death, up to date of last report, had resulted from a suit of second-hand clothes bought in St. Louis, by a railroad hand, and brought to Elsah, where the first cases appeared in a family to which the clothes were taken to be washed. From Elsah it was carried to Jerseyville, where 3 cases have resulted among hands employed by the Wabash Railroad Co.

Ten cases have occurred near Harrisonville, Monroe County, the source of contagion being infected bedding, clothing, etc., thrown into the Mississippi River, and lodging upon an island, where the outbreak occurred.

With the above exceptions, there has been only one case of varioloid in the State (outside of Chicago) since June 23. The case referred to is that of a farmer returning to Paxton, Ford County, from France, with a cargo of imported horses. He was carried on a Danish stock boat, the *Friga*, and contracted the disease from a stock-man on board, who was suffering with a mild case of varioloid. The attending physician writes that "there was no examination in New York," and as the man did not travel as an immigrant, he, of course, escaped inspection by the service.

In Chicago there have been only 24 cases and 5 deaths during the month, and at the close of the month there were only 3 cases under treatment in hospital, and 2 in the city.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending September 2, 1882, indicate that rheumatism, typho-malarial fever, tonsillitis, and bronchitis have increased, that dysentery has considerably decreased, and that inflammation of the bowels and cholera infantum have decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending September 2, and since, at 11 places, scarlet fever at 6 places, measles at 3 places, and small-pox at 2 places, as follows: at Grand Rapids (one case, convalescent); August 28, in Sebewa Township, Ionia County (convalescents), August 30.

August 27, a case of cholera, resembling Asiatic cholera, was reported to have occurred in Adams Township, Hillsdale County. No other case has been reported.

THE ENGLISH DEATH RATE.—From the weekly return of births and deaths in London, and twenty-seven other large English towns, for the week ending August 19, we learn that the annual rate of mortality averaged 23.8 per 1000 of their aggregate population, which is estimated at 8,469,571 persons. The rates of mortality in the several towns ranged from 16.3 in Birkenhead to 33.4 in Nottingham, that of London being 20.5. The deaths in London during the week numbered 1528, and these included 5 from small-pox, 41 from measles, 40 from scarlet fever, 17 from diphtheria, 52 from whooping-cough, 11 from enteric fever, 1 from an ill-defined form of continued fever, 164 from diarrhœa and dysentery, 11 from simple cholera, and not one from typhus fever. Eighteen new cases of small-pox were admitted into the hospitals during the week. Small-pox also caused one death in Wolverhampton, one in Nottingham, one in Newcastle-on-Tyne, and three in Birmingham.

During the same week the death rate in eight principal towns in Scotland was 20.7 per 1000 of the estimated population; Perth giving the lowest rate, 17.2, and Paisley the highest, 32.1.

OBITUARY.—Died at Trieste on Saturday, September 9th, BENJAMIN F. GIBBS, M.D., Surgeon U. S. Navy. Dr. Gibbs was Medical Inspector on board the United States Steamer Lancaster, and had been ill some time when Trieste was reached. His death took place at the hospital, whither he was conveyed. Surgeon Gibbs was a native of New Jersey, from which State he was appointed Assistant Surgeon in 1858. His commission as Medical Inspector dated from March 17, 1876.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 4 TO SEPTEMBER 11, 1882.

HUBBARD, VAN BUREN, *Major and Surgeon.*—Orders to Fort Wingate, New Mexico, revoked. To report to Commanding Officer District of New Mexico for duty at Fort Stanton, New Mexico.—*S. O. 174, Headquarters Department of the Missouri, August 30, 1882.*

COMEGYS, E. T., *Captain and Assistant Surgeon.*—Assigned to duty at Fort Supply, Indian Territory.—*S. O. 174, Department of Missouri, August 50, 1882.*

CORSON, JOSEPH K., *Captain and Assistant Surgeon.*—Granted two months' leave of absence.—*S. O. 210, A. G. O., September 9, 1882.*

SHUFELDT, ROBERT W., *Captain and Assistant Surgeon.*—Now awaiting orders, to report by letter to the Commanding General Department of the South for assignment to duty.—*S. O. 209, A. G. O., September 8, 1882.*

TAYLOR, MORSE K., *Assistant Surgeon.*—Relieved from duty as Attending Surgeon at Detroit, Michigan.—*S. O. 157, Department of the East, September 9, 1882.*

WAKEMAN, WILLIAM J., *Assistant Surgeon.*—Assigned to duty at Fort Douglas, Utah.—*S. O. 91, Department of the Platte, September 1, 1882.*

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

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VOL. XLI. SATURDAY, SEPTEMBER 23, 1882. NO. 13.

ORIGINAL ARTICLES.

THE THORACOPLASTIC OPERATION OF ESTLANDER:

MULTIPLE AND EXTENSIVE RESECTION OF THE RIBS OVER OLD AND INTRACTABLE EMPYEMA CAVITIES, AS A MEANS TO EFFECT THEIR CLOSURE.

BY CHRISTIAN FENGER, M.D.,
OF CHICAGO, ILL.

IN the last twenty years the treatment of empyema has gradually drifted from the repeated aspirations, through the stage of the use of the permanent canula, into the stage of free incision, with excision of a piece of a rib, if necessary, and with thorough drainage, with or without the washing out of the cavity.

The repeated aspiration will possibly retain a permanent place in the treatment of empyemas in children: the permanent canula will never attain its object, namely, to shut out air from the pleural cavity, except when evacuation and washing out is performed. It will, consequently, have to be abandoned in favor of the more effective method of free incision. But it was natural that the two first-named methods should have their trial before the advent of antiseptic surgery, which has enabled us to so disinfect the air entering the pleural cavity through the drainage tube at each inspiration, as to render this air free from noxious germs, and, consequently, harmless.

The antiseptic method, then, is a *conditio sine qua non* for the employment of the method of free incision; it also enables us to treat the cavity on rational modern surgical principles; that is, to have two openings—an anterior and a posterior, and sufficient drainage through these to effect not only the evacuation, but also the thorough washing out, and, if necessary, the disinfection of the cavity.

Dr. A. Homén, in his interesting paper on Estlander's method (Langenbeck's *Archiv für klinische Chirurgie*, Band xxvi., Heft 1., page 151, 1881), has been able to gather statistics of fifty-two cases of empyema treated by free incision, with all antiseptic precautions. Of these, fifty per cent. recovered, thirty-three per cent. died, and in seventeen per cent. permanent fistulæ remained.

Homén's total statistics include one hundred and forty-one cases treated by free incision, but in all of which strict antiseptic precautions had not been observed. As may be expected, the results of the operation are less favorable than in the class of cases just mentioned. Of these, forty-six per cent. recovered, thirty-three per cent. died, and a permanent fistula remained in twenty-one per cent.

As our attention is to be called only to the treatment of permanent pleural fistulæ, we will now look a little closer into the condition of patients so affected, and then into the prospects for their future.

The fistulous opening leads (with the exception of a few cases, in which the sole remnant of the empyema is a carious rib) into a cavity between the thorax and the lung—a cavity with fibrous, connective-tissue walls, covered with a layer of soft pus-secreting granulating tissue, and usually without, but sometimes with, connection with one of the bronchi. It is needless to state that the size of such a cavity, and the amount of purulent matter secreted from its walls, may vary indefinitely; but even a small cavity, with a moderate secretion, is not only a constant inconvenience to the patient, but also a fruitful source of danger to his health and life in the course of time.

The patient usually is pale, weak, and unable to perform the ordinary duties of life. From time to time the fistula may close up, and retention of pus, with subsequent pain, exhaustion, and fever, result. In cases where primary tuberculosis, or cheesy deposits in the lung tissue, do not exist, or are at a standstill, the constant suppuration of the cavity, together with the formation of a deposit of cheesy matter, may be the starting-point for tuberculosis, or, by breaking down the patient's general health, may arouse a latent tuberculosis.

But if tuberculosis be not the main danger in these cases, there is another, just as serious, and perhaps more certain sooner or later to ensue, namely, the amyloid degeneration of the kidney, spleen, and liver. In the majority of fistulæ we are liable to find some day, sooner or later, the patient with œdema around the malleoli, a slight amount of albumen in the urine; sure signs that he is approaching the inevitable fatal termination.

The objection might be made here that a number of cases are met with and on record in which, for a long series of years, a discharging thoracic cavity has been sustained without much impairment of the general health, without the development of tuberculosis or amyloid degeneration. But, this being granted, we must confess that in such cases we never know when the fatal complications will commence, whether in a few months or in a few or many years. Consequently we must regard every permanent empyema cavity as a constant menace to the life of the patient.

In view of these considerations it is not only our prerogative, but also our duty, to try every reasonable means for the obliteration of the cavity.

It is not my intention here to discuss the whole local and general treatment of empyemas, the various fluids injected, and so on. This paper is intended to treat only of those empyema cavities where the rational operation has been performed in time, where antiseptic dressing, accompanied by thorough drainage and washing out with the various disinfectant and alterative fluids, has been used; in short, where all other possible means have been exhausted, but the lung will not expand any more, the

thorax cannot sink in any more, and no injection of fluid causes any formation of connective tissue to fill up the cavity; it is in these cases that we are obliged to employ Estlander's operation.

The only way to close an empyema cavity in this condition is to effect by an operation a more or less complete contact of the walls of the cavity. As it is not in our power to act upon the internal or pulmonary wall of the cavity, or in other words, as we are unable to bring the surfaces of the lung out in contact with the wall of the thorax, nothing is left but to obviate the rigidity of the wall of the thorax by taking away, from the ribs covering the cavity, pieces as large and as many as may be necessary to effect a further sinking in of the throracic wall, and sufficiently extensive to bring the latter in contact with the surface of the lung.

Before discussing the details of the indications for the operation, the operation itself, and the after-treatment, I will report the following case as an illustration:

CASE. *Right-sided pleurisy, resulting in empyema; repeated aspiration; inefficient fistulous opening discharging for a year and a half; dilatation of opening, drainage and washing out; no counter-opening; daily washing out for a year; removal of seven centimetres of the sixth, six centimetres of the fifth, and six centimetres of the fourth rib in the axillary region over a transverse cavity two inches long, an inch and a half high, and about an inch deep; slight fever for six days; small subcutaneous abscess below the scar after eighteen days; drainage-tube of cavity removed in thirty-seven days; cavity and fistula closed in fifty-four days.*—Rebecca S., 16 years of age, was admitted to Cook County Hospital, October 11, 1881. Her history was as follows: Her father died of acute consumption at about the age of thirty. Her mother is still living, thirty-four years of age, and enjoys good health. The patient's hygienic surroundings have been relatively good. She had rubeola and whooping-cough in her sixth year, but had no other sickness until two years and nine months before her admission to the hospital, when she had a severe attack of pleurisy on the right side, which kept her in bed for two weeks and terminated in an empyema. Aspiration was employed three or four times by her physician, Dr. Banga, at intervals of about a week, but difficulty was always experienced in drawing off the pus on account of its admixture with fibrinous matter, so that complete evacuation was impossible. One of the openings made by the aspirator needle remained open and discharged a considerable amount of pus daily for a year and a half. During this time, and until a year before her admission to the hospital, she had no medical treatment. At this time her general health began to be much impaired, she lost flesh and appetite, and became weak and anæmic.

On account of this she consulted Dr. E. Andrews, of Chicago, who dilated the already existing opening into the pleural cavity, inserted through this a drainage-tube, and washed out the cavity with carbolic acid solution. The cavity was washed out daily until her admission to the hospital, and in consequence her health improved to some extent.

On admission the patient was found to be small for her age, spare, but not extremely emaciated; she was pale, her appetite poor, and she could not sleep without the use of hypnotics, rather because of her habituation to their use, than on account of any especial pain in the side. The right half of the chest was sunken and flattened; the right shoulder was lower than the left; a slight curvature of the spine in the dorsal region, with concavity to the right, was noticeable, which had resulted, as usual in such cases, from the sinking in of the right wall of the thorax. Two and one-half inches below and half an inch to the right of the nipple, between the sixth and seventh ribs, was a fistulous opening leading upward and backward into the empyema cavity, and into which a probe could be passed five and a half to six inches. The amount of discharge was from one and one-half to two tablespoonfuls daily.

Percussion resonance was clear over the clavicular and in the infraclavicular region, down to about the fourth rib, but dull from this point down to the liver. In the place of the clear percussion, vesicular respiration was somewhat weak, but still could be distinctly heard. On the dorsal side there were clear percussion and vesicular respiration all over the scapula; in the infrascapular region, dull percussion and no respiration sound.

The heart and left lung were normal; temperature and pulse normal; bowels regular; urine light straw-colored, clear, acid, and contained neither albumen nor sugar. There has been no œdematous swelling of the lower extremities at any time.

Daily washing out of the cavity with a two and one-half per cent. solution of carbolic acid was ordered, and a voluminous Lister dressing applied over the fistula. The patient was discharged from the hospital October 15, and ordered to continue the treatment at home.

A month later, November 16, the patient was readmitted to the hospital. During this time the daily discharge had decreased a little, but amounted still to about a tablespoonful. She has become weaker, her appetite poor, and complained of frequent pain in the right side, and headache. The cavity was now washed out daily with a one-tenth per cent. solution of thymol, Lister dressing applied, and quinia and iron given internally.

During December and January this treatment was continued, but no especial improvement was noticeable notwithstanding the injection of different fluids, such as tincture of iodine, alternating with the solutions of thymol and carbolic acid.

In January she came under my care, and I resolved to try the thoracoplastic operation as a last resort to effect the closure of the cavity and check the suppuration. Once more the urine was carefully examined both chemically and by the microscope, and was found not to contain albumen nor casts of any kind.

On January 27, at the surgical clinic in the amphitheatre of Cook County Hospital, in the presence of Dr. W. Meacher, of Portage, Wisconsin, assisted by the hospital staff, I operated in the following manner: The patient having been anæsthe-

tized with ether, was placed on her left side, and the right side of the thorax carefully disinfected with a five per cent. solution of carbolic acid and the nail-brush, the fistulous track was laid open for an inch and a half, when it passed inside the wall of the thorax between the sixth and seventh ribs. The incision was then carried upward and backward, along the outer surface of the sixth rib for about three inches, making the entire incision about five inches in length. By means of a gouge the sixth rib was now denuded of periosteum, and a piece seven centimetres long removed by a bone forceps. In the same manner six centimetres of the fifth rib were removed. After this had been done I was able to introduce the little finger into the empyema cavity, which was found to be two inches long, an inch and a half high, and about an inch deep, extending up behind the fourth rib, the apex being at the third intercostal space. The upper border of the incision could be drawn upward beyond the fourth rib, which I denuded, and then removed a piece six centimetres in length. Having a finger in the cavity and passing the other hand over the covering wall of the thorax, I ascertained that the pulmonary and thoracic walls of the cavity could be brought in contact, and so did not resect the third rib. The walls of the cavity were found to be firm, hard, connective tissue, covered with a layer of flabby granulating tissue. All of the latter was removed by the sharp spoon. The hemorrhage during the operation was trifling, no ligatures were needed, the slight hemorrhage from two of the intercostal arteries being stopped by torsion.

As the upper posterior end of the wound showed a tendency to form a pocket in the loose connective tissue below or anterior to the latissimus dorsi muscle, a buttonhole opening was made through the latter for a drainage-tube, near the angle of the scapula. The wound and the cavity were then thoroughly irrigated with carbolic acid solution, the walls dusted with iodoform, one large drainage-tube inserted into the cavity and another along the entire extent of the wound, from the scapula to the anterior end of the old fistulous tract, the wound united with disinfected silk, and covered externally by a layer of iodoform, over which a voluminous Lister dressing was applied. The carbolic spray was used during the operation which lasted about an hour.

7 P.M. Pulse 136; temperature 99.8°. The patient has vomited a little, but is warm, and, with the exception of the high pulse, presents no evidence of shock.

January 28.—A.M. Pulse 114; temperature 100.6°. Has slept off and on, an hour at a time, from the use of hypodermic injections of morphia. Complains of pain in the side. 7 P.M. Pulse 124; temperature 100°. Complains of pain. Has taken champagne, and a little milk and lime water.

29th.—A.M. Pulse 134; temperature 101°. Has slept for an hour at a time during the night. Complains of thirst and headache. Dressed the wound, which showed slight suppuration, and washed it out with thymol solution. 7 P.M. Pulse 148; temperature 102.5°. Ordered five grains of quinia every four hours, subcutaneous injection of one-fourth grain of morphia when the pain is severe, and potassium bromide and chloral at bed-time, the latter to be repeated if she wakes during the night.

30th.—A.M. Pulse 130; temperature 101.2°. She has slept well during the night, is somewhat nervous and feels feverish, but her general expression is good. P.M. Pulse 142; temperature 102.6°.

31st.—A.M. Pulse 124; temperature 101.5°. P.M. Pulse 130; temperature 102°.

Feb. 1.—A.M. Pulse 108; temperature 100°. P.M. Pulse 106; temperature 100.2°.

2d.—AM. Pulse 120; temperature 98.5°. P.M. Pulse 130; temperature 100.2°.

3d.—A.M. Pulse 106; temperature 99.5°. P.M. temperature 101.2°. Wound dressed and stitches removed, discharge moderate. Patient sleeps better, and has some appetite.

4th.—A.M. Pulse 118; temperature 99.7°. P.M. Pulse 120; temperature 101.7°.

5th.—A.M. Pulse 128; temperature 99°. P.M. Pulse 112; temperature 99.5°.

6th.—A.M. Pulse 114; temperature 99°. P.M. Pulse 120; temperature 100.6°.

7th.—A.M. Pulse 110; temperature 99.2°. P.M. Pulse 108; temperature 100°.

8th.—A.M. Pulse 104; temperature 98°. P.M. Pulse 103; temperature 99°.

9th.—A.M. Pulse 120; temperature 99.2°. P.M. Pulse 118; temperature 98°.

10th.—A.M. Pulse 112; temperature 99.8°. P.M. Pulse 122; temperature 100.6°. Outer drainage-tube removed; very little discharge.

11th.—A.M. Pulse 120; temperature 98.5°. P.M. Pulse 108; temperature 99.8°.

12th.—A.M. Pulse 110; temperature 98.7°. P.M. Pulse 124; temperature 99.6°.

13th.—A.M. Pulse 120; temperature 99.8°. P.M. Pulse 126; temperature 101.2°.

14th.—A.M. Pulse 120; temperature 100.7°. P.M. Pulse 128; temperature 101.1°. The rise in temperature was accompanied by pain in the region of the wound and headache. She did not sleep well during the night, and complains to-day of considerable pain in the side. On the removal of the dressing a fluctuating swelling was found just above the centre of the united wound. As the contained pus could not be pressed out through the drainage-tube in the old empyema cavity, a small incision was made, though which about an ounce of somewhat fetid pus was evacuated, A small drainage-tube was now inserted, and the cavity washed out with a two and one-half per cent. solution of carbolic acid.

15th.—A.M. Pulse 114; temperature 98.2°. Patient has slept well during the night, and the fever and pain have subsided.

21st.—Very little discharge; removed the small external drainage-tube, and shortened the internal drainage-tube an inch.

March 5.—Discharge scanty; removed internal drainage-tube, and replaced it by sticks of iodoform and gum arabic, equal parts.

21st.—Patient had headache and rise of temperature last night. No pain in the side. The wound is superficial and granulating. There is nothing to

be found in the thorax to account for the transient rise in temperature.

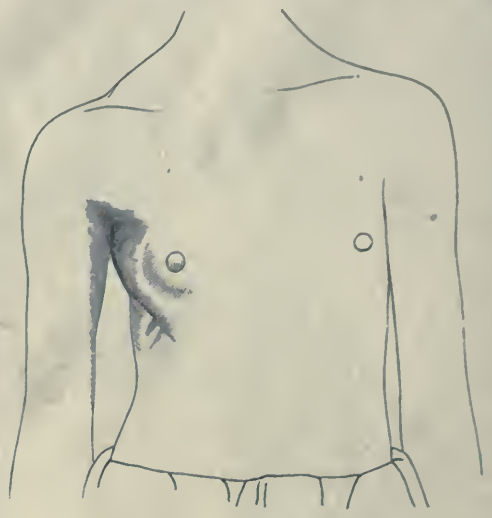
22d.—The patient was discharged from the hospital cured.

August 8.—The patient came to my office. Her condition was then as follows: The right shoulder was an inch lower than the left. The right clavicle half an inch lower than the left. The right angula scapulæ three-quarters of an inch lower than the left. The arms being in a corresponding position, the distances from the spines of the vertebræ to the medial margin of the right scapula were, in the upper half, two, and in the lower half one and one-half inches; to medial margin of the left scapula, three inches. When the elbows were pressed against the crest of the ilium, the left arm was at all points in contact with the lateral wall of the thorax, but between the right arm and the lateral wall of the thorax, there was a space of three-quarters of an inch in the centre and half an inch at the axilla and above the crest of the ilium. The lower margin of the right pectoralis major had a horizontal portion one and one-quarter inch in extent; the left had none, or only about a quarter of an inch. About the nipple the circumference of the left thorax was thirteen and a quarter inches; of the right, ten and three-quarters inches, measurements being made below the angle of the scapula. At the axilla the circumference of the left thorax was thirteen and three-quarters inches; of the right, eleven and three-quarters. In the region of the eleventh dorsal vertebra the circumference of the left thorax was twelve and a half inches; of the right, ten inches. The anterior surface of the sternum was turned to the right. The deepest sinking in of the right pleural cavity was at a point just above the nipple, corresponding to the fourth rib, where the antero-posterior diameter was three and a half inches; at the corresponding point on the left side, the diameter was five inches. Immediately below the clavicle, the antero-posterior diameter on the right side was three inches; on the left, three and three-quarters inches.

On the right anterior side there was clear percussion to the fourth rib, below this point, dull; in the axillary region clear percussion to the fifth rib, below this point, dull. On the posterior side percussion in the supraspinatous, infraspinatous, and interscapular regions, was clear; in the infrascapular region, dull. There was vesicular respiration on the anterior side in the place of the clear percussion, and on the posterior side, except in the interscapular region, where the respiration had a hollow, bronchial character.

On the left side there was clear percussion down to the third rib, where the heart dulness commenced, extending from the left border of the sternum to the region of the nipple, where, between the fourth and fifth ribs, the apex beat was perceptible. The heart and left lung were perfectly normal.

The scar, shown in the accompanying cut, was four inches long, extending from two inches below the right nipple, at about the sixth rib, upward and backward to the anterior border of the latissimus dorsi. Two inches behind and above the upper end of the scar, was the cicatrix of the buttonhole opening for the drainage-tube.



In the dorsal region there was a slight curvature of the spine, the concavity to the right, the centre of the concavity being at the eighth or ninth dorsal vertebra.

The patient has had monthly attacks of migraine, but neither pain in the chest nor cough.

The ends of the resected fourth, fifth, and sixth ribs, could be plainly felt, but between them the wall of the thorax was so resistant that it was evident that formation of osseous tissue had taken place.

The patient's general condition was good. Her appetite was better than when the fistula was open, and she was not anæmic.

From the beginning the empyema in this case was undoubtedly a total one; that is, it involved the entire pleural cavity, as was shown by the very considerable uniform diminution in size of the whole right thoracic cavity, which amounted to two and two and a half inches in the circumference, and from three-quarters of an inch to an inch and a half in the antero-posterior diameter of the thorax. As far as the extent of the empyema was concerned, this was one of the grave cases, and it is not surprising that even, as in this case, in a child less than fourteen years of age, the flexibility of the thoracic wall should not be sufficient to permit the sinking in necessary to bring it in contact with an almost entirely compressed lung. It is probable, however, that at the age of this patient, if the empyema had been properly treated from the beginning by timely incision and drainage, the lung, freed from the constant pressure of the large quantity of fluid contained in the cavity, might have been able to expand before the covering layer of connective tissue had become too thick and firm, so as to meet the wall of the thorax, and consequently a permanent cure might have been effected earlier, and a larger amount of lung-tissue made available for future use. This is the more probable, as in none of Estlander's cases was the thoracoplastic operation necessary in patients under twenty-one years of age, and it is certain that only in a child could such a remarkable diminution

in the size of the thoracic cavity, as was seen in this case, have been possible.

In my case, the effect of the operation, namely, the closure of the cavity and fistula, was very prompt, taking place in fifty-four days after the operation, or in twenty-two days less than Homén's average. This was to be expected, as Estlander's patients were older.

The immediate result of the operation was plainly to be seen in the remarkable sinking in of the thoracic wall in the region of the nipple, that is, over the fourth rib, where the antero-posterior diameter was lessened an inch and a half.

The idea of resecting pieces of the ribs in empyema is not a new one, as more than twenty years ago Roser advised the excision of a piece of a rib, three to six centimetres long; in order to get access to an empyema cavity and to avoid trouble in keeping the fistula open. For this purpose excision of the ribs has been in general use in surgery for a number of years, and is practised everywhere. Homén states that an American surgeon named Walter (*British Medical Journal*, January 2, 1860), in 1857, resected an inch of the eighth rib in a case of intractable fistulous empyema, because he thought that caries of the rib might possibly be the cause of the suppuration. As no improvement took place, two months later, he resected two inches each of the eighth and ninth ribs for the same purpose. The fistula closed up a year afterward.

It is thus evident that Walter had made a thoracoplastic operation, but without being exactly aware of the idea of the procedure. Simon, in 1869, was aware of the fact that after resection of a rib for empyema, the cut ends of the bone soon approached each other, and he laid stress upon the fact as a means of diminishing the size of the empyema cavity.

Heineke, in 1872, proposed to remove a piece of the rib covering the fistula, seven centimetres in length, for the same purpose.

To Estlander belongs the undisputed merit of having systematized the operation, extended it to the resection of as large a number of ribs as the size of the cavity may require, and reported a series of eight operations (*Revue Mensuelle de Médecine et de Chirurgie*, February, 1879); in fact, Estlander has proved not only the practicability of the method, but also its great value. In reality the operation is Estlander's, and it, therefore, seems proper to accept the name, thoracoplastic, given it by him.

Indications for the Operation.—As already stated above, the thoracoplastic operation will have to be resorted to in cases of intractable empyema cavities that have resisted all other treatment. But the question arises: When in the course of such an empyema is it time for the operation? Naturally it is impossible to fix a stated time that will apply to all cases and ages, but Estlander strongly advocates that the operation shall not be made early, as he considers it a *conditio sine qua non* for a beneficial result of the operation that both the pulmonary and costal pleuræ shall have been tranformed into a thick layer of firm connective tissue, with its great inherent retractive power. Homén gives, as an approximate rule, that when the fistula has existed four or five months without any diminution of the cavity, the operation should be resorted to. As the disease has probably existed for two or three months before the fistula, the time for the thoracoplastic will be six to eight months after the beginning of the disease.

The fact that the cavity is not diminishing in size should be ascertained by careful watching of the patient; when the successive injections into the cavity show the quantity of the injected fluid to be the same, and when, on probing the cavity with uterine sound or metallic catheter its dimensions are found to remain materially the same.

It is a question, however, if it would not be appropriate to operate somewhat earlier, as Homén has stated that the earlier the empyema operation is performed, the more quickly will the fistula heal up in favorable cases, and it is evident that the thoracoplastic operation is liable to be more effectual when the layer of connective tissue covering the lung and the wall of the thorax is of moderate thickness, instead of being firm, hard, thick, and unyielding in any direction. Furthermore, one of Estlander's main arguments for delaying the operation until the pleura has been transformed into a thick connective-tissue membrane, is this: That the pleura has lost its character of serous membrane, and thus the danger of opening into a pleural cavity is obviated.

His reasoning here is not quite correct, because at no period of an empyema is there any danger from opening the pleural cavity under antiseptic precautions in adults, and besides, if the empyema cavity be local, that is, only a part of the whole pleural cavity, there is no likelihood of opening or cutting into healthy parts of the pleural cavity during the operation, as the adhesions necessarily surrounding the empyema cavity will probably always be extensive enough to prevent such an accident, and in most cases no serous or healthy parts of the pleural cavity will be found at all.

As contraindications, advanced tuberculosis of the lung, albuminuria, and extreme debilitation of the patient naturally present themselves. Of the first two named, the albuminuria from amyloid kidney is probably the most important, as such patients are liable to succumb to the shock of even a not very serious or long operation. As to the third contraindication, the debilitation of the patient, Estlander has shown, that in patients emaciated almost to a skeleton, and so weak that they could take only a few steps, and in one in which the patient was so weak that he could hardly turn himself in bed, the operation has caused very slight transitory derangements in the patient's condition, and that the slight fever and pain following the operation have disappeared in a few days, to be followed by a remarkable, almost constant, improvement. It is thereby shown that the operation is by no means an exhausting one, but may be resorted to in cases where the patients are extremely debilitated.

Operation.—In deciding upon the plan of operation in each special case, the first consideration is naturally the shape and size of the cavity, and the plan will be essentially different when the cavity

has its greatest length from above downward in a perpendicular direction, and when its direction is transverse from before backward. A longitudinal cavity covered by five, six, or seven ribs, and not extending from the sternum to the vertebral column, but only occupying part of the thoracic cavity, will usually have the greatest depth in the axillary and infra-axillary regions, and will require the resection of small pieces, that is, from two to six centimetres, of a large number of ribs. In one of Estlander's cases, in two successive operations, two to six centimetres were resected of not less than nine ribs, from the third to the eleventh inclusive.

The first and second ribs are, as a matter of course, so inaccessible, and, also, so near the large vessels, that they are out of the question for resection. The twelfth rib is too short and too movable to ever require the operation.

A transverse cavity requires the resection of a larger piece of one or a few ribs. As to the length of these pieces, Homén, from a rather theoretical point of view, by mathematical deductions, gives the rule that there should be resected of each rib a piece, the length of which is equivalent to the greatest distance between the inner surface of this rib and the pulmonary surface of the cavity. Consequently, of several ribs covering the cavity, the largest piece will have to be resected from the rib extending over the middle of the cavity. In the main, these theoretical deductions will be found practically applicable.

The most important muscles interfered with are the pectoralis major and the serratus anticus major. When the resection is made strictly subperiosteal, there will be the same rehabitation of functions of these muscles as in the subperiosteal excisions of joints, a more or less extensive formation of new bone always taking place in the periosteal sac of the excised ribs.

The incision varies according to the number of ribs to be resected. For the excision of long pieces of two or three ribs, one single incision parallel to and either between the two, or along the middle rib of the three, will give sufficient space for the removal of the pieces, especially when by sinking in of the thorax the ribs are in more or less close approximation to one another.

For the excision of small pieces of a large number of ribs, it is best to make several incisions parallel to and above each other in the intercostal spaces, each incision permitting the excision of two ribs. Estlander attempted in such cases to make one vertical incision for the resection of several ribs, but found it inconvenient, as he was obliged to make several secondary incisions at right angles to the first, and so made an irregular wound, requiring several drainage tubes, and slow and somewhat difficult to heal.

Through the incision in the skin, the periosteum is divided along the external surface of the rib and stripped from the latter by a common gouge. This is usually accomplished without difficulty. Occasionally it is rendered more difficult when, by sinking in of the thorax, the ribs are pressed together, and sometimes even overlap. To perform the operation in such cases it would be necessary to commence with the most superficial rib of course.

As a matter of course, the ribs should not be denuded of periosteum beyond the location of the piece to be excised, with the view, as Homén states, of avoiding necrosis of part of the resected rib. Fear of such a necrosis would be unnecessary if all excision wounds healed by first intention. But this will, as a rule, not take place, because the wound is in connection with an already suppurating cavity, from the walls of which, by the most careful scraping out, all of the inflammation-producing germs cannot be removed.

The hemorrhage is always insignificant; Estlander has never been obliged to make a single ligation.

If the cavity is small and the walls sufficiently firm, it may be well to remove the soft suppurating layer of granulations with the sharp spoon, providing the cavity is so situated that no important organs are thereby endangered, for the following reason: If the thoracoplastic operation is sufficient to produce perfect approximation of the walls of the cavity, the scraping out might make closure by first intention possible.

A counter-opening from the cavity to the posterior wall of the thorax at the latissimus dorsi muscle is desirable, if not necessary, if the cavity is of considerable size.

The external wound should, of course, be united, drained, and dressed antiseptically.

The after-treatment lasted generally about ten weeks in the cases in which recovery took place. The fever following the operation was always moderate. The rather constant and more or less violent pain in the operation wound was remarkable. It usually lasted only for a few days, and was easily overcome by morphia.

The wound should be dressed every two to four days, according to the amount of discharge, accompained by washing out with antiseptic fluids through the drainage-tubes. How far the theoretical rational advice of Homén to assist the sinking in of the thoracic wall operated upon, by local pressure upon it, is practicable, cannot yet be stated. In my case it was impossible to resort to this measure, because of the pain in the side, which did not permit me to apply the common dressings even as firmly as I wished, but obliged me to apply the roller bandages as loosely as possible and still hold the dressings in place.

An important question during the after-treatment is to determine the progress of the diminution of the cavity, by means of the quantity of fluid injected and the probe. When it is found that a cavity comes to a standstill, a second or even a third operation may have to be resorted to. The time between the two operations in the same case has varied from six weeks to five months.

The thoracoplastic operation should undoubtedly be accepted as a valuable, if not a necessary, final step in the treatment of empyema, a general view of which would be nearly as follows: As soon as the diagnosis of an empyema is thoroughly established, aspiration should be first resorted to if the pus in the pleural cavity is not fetid. If after repeated aspira-

tions the fever does not decrease, nor the lung expand, and the cavity refills rapidly, the empyema operation by incision *in loco selecto*, and counter-opening in the lowest part of the cavity, with resection of a piece of rib if necessary, and thorough drainage and washing out, is in order. This operation should be performed as early in the disease as possible, as the statistics have shown that the earlier it is performed, the better are the chances for recovery.

Finally, if this operation does not procure complete recovery, that is, complete closure of the cavity within about six months, the thoracoplastic operation should be performed, and if necessary be repeated until perfect recovery is obtained.

Estlander has established beyond doubt that some lives, otherwise lost, may be saved by this operation, and I am glad to do honor to the memory of a man with whom I have been in friendly relations in former years, and whose premature death is a deplorable loss to science, by bringing his operation before the notice of the profession of this country.

120 W. INDIANA ST., CHICAGO, ILL., July, 1882.

A CASE OF BRONCHITIS IN A NEW-BORN INFANT—DEATH ON THE THIRD DAY.

BY ANDREW F. CURRIER, M.D.,
OF NEW YORK.

MOST of the diseases of fœtal life must forever remain obscure. When the mother is apparently in good health during the months of utero-gestation, and comes of good lineage, we look for healthy offspring. (Of course infectious diseases are excluded in this statement.) The child is beyond the power of clinical observation until it comes into the world, and then the physician is occasionally so heavily handicapped that his efforts to assist the sufferer are unavailing. Such is the case in bronchitis neonatorum. Vogel says the patients usually die.

Mrs. E. E., the mother of the child is of Welsh birth, twenty-one years of age, has always been healthy, and comes from a healthy family. Her mother had nine children, all but the last of which were delivered with the assistance of a midwife only. Her last menstruation was in September, 1881, and with the exception of constipation and some slight pain in the left side and leg during the latter months, she suffered no inconvenience during her pregnancy. Labor began at 4 A.M., June 9th, when she was awakened from sleep by the breaking of the fœtal membranes and the escape of the waters.

When I saw her a few hours later, she was having occasional pains, of no great force; the os was sufficiently dilated to admit the ends of two fingers, the vaginal tube was soft and well lubricated, and the head presented above the brim in the first position. Labor progressed rather slowly, but the patient had an abundance of strength, and would not permit the application of the forceps. The head was delivered without accident at 2 P.M., and as the uterine contractions then became very weak, some force was required for the removal of the body. Respiration was secured after a few moments of effort, though the child was deeply cyanosed at birth.

After expressing the placenta, it became necessary to peel off the membranes, which were adherent at the lower segment of the uterine body. Quite a copious hemorrhage followed, which was checked by firm and persistent pressure upon the uterus, after which the organ contracted properly. The placenta was of about the average size, and healthy in appearance. The cord was centrally inserted, was of average length, but of small calibre. The membranes were soft and easily torn.

The child was a fairly developed male, weighing about seven pounds. The frænulum linguæ extended nearly to the tip of the organ, and this was cut away without any resulting hemorrhage. Within half an hour after birth the child had a spasm, and became deeply cyanosed. I removed a quantity of thick mucus from the mouth and throat, but supposed it was nothing different from what one frequently finds in the mouth of new-born infants. In a few minutes the spasm and cyanosis recurred. He was put into hot water, and more mucus removed from the mouth. As he seemed tolerably comfortable after recovering from this attack, was breathing fairly well and seemed to have a proper circulation, I hoped he would have a comfortable night. In this I was disappointed, for there were several attacks of dyspnœa during the night.

The next morning the pulse was not more rapid than is usually found in so young an infant; the skin was of good color, but the breathing was very rapid. Mucous râles could be heard over the lower lobe of each lung, particulary the right one. The child was placed at the breast, and the mother said she could feel suction. Small doses of carbonate of ammonium dissolved in simple syrup were ordered every two hours, and as the mucous membrane of the lips and nose were becoming dry, sweet oil was placed upon them.

The next day when I called the child was very weak, breathing rapidly and with difficulty, and in a semi-unconscious condition. He had resisted all attempts to introduce anything into his stomach, choking violently each time. Death took place about fifty hours from birth. The father consented to an autopsy, but upon reaching the house I found the mother violently opposed to it. As she was excited and feverish, it would have been unwise and improper to press the matter, so that the question as to the absolute condition of affairs remained unsolved.

Whether the foramen ovale was closed, whether there was atelectasis or a simple catarrhal bronchitis, which was not diffuse, excepting over the lower lobe of each lung, I was unable to find out by inspection of the parts. From the facts which have been stated, I am inclined to the last-mentioned view of the case.

The subject of congenital bronchitis is not dwelt upon by any of the writers upon children's diseases, which I have been able to find. They all describe bronchitis, and Bouchut has stated that it may be present from the moment of birth. He considers general bronchitis, capillary bronchitis, and bronchopneumonia, as synonymous. Smith, and Meigs and Pepper would probably refer this case to atelectasis,

which is described with great clearness. Gerhardt, Vogel, and Rilliez and Barthez, strengthen the diagnosis made, without saying anything positive about the congenital existence of the disease. The older writers, Churchill, Tanner, Hölder, Condie, and others, make little or no reference to the disease among the newly-born. Tanner, as the result of his own observation and the published statements of Billiard and Valleix, thinks that the influence which age has upon the disease is difficult to state precisely, especially with reference to the newly-born. He has not often seen it among infants at the breast, and thinks it rare.

HOSPITAL NOTES.

VIENNA GENERAL HOSPITAL.

(Service of PROF. SPAETH.)

"CONGLUTINATIO ORIFICII UTERI;" DILATATION, HYSTEROSTOMATOMY.

(Specially reported for THE MEDICAL NEWS.)

A CASE of "conglutinatio orificii" (Nägele) has recently been observed in the lying-in-rooms of the second obstetrical clinic.

The patient, white, Austrian, unmarried, thirty-two years old, brought into the ward August 17, was in her first pregnancy, and had felt labor-pains for the three preceding days. The course of her pregnancy was of a normal character. Abdominal palpation revealed pregnancy at full term, vertex presentation, first position (Vienna nomenclature). Heart sounds were loud, regular, and perfectly normal; vaginal examination showed the fornix vaginæ to be of orbicular shape and well pressed down into the canal. The small fontanelle was felt, through the fornix vaginæ, to the left and behind, constituting a vertex presentation, first position. No cervical portion or external orifice could be perceived. Finally, the finger touched a depression toward the anterior portion of the fornix, which, upon examination with a Sims' speculum, proved to be the position of the external orifice. Roundabout this little depression very tender radiating cicatrices were noticeable; its centre was a papilla of a strawberry appearance, resembling granulation tissue. The orifice of the uterus was covered with a lamella, which was so tough that it could not be broken up by the fingers. Accordingly, Simpson's sound was passed through it, and dilatation effected by means of a bougie first, and a pair of dressing-forceps subsequently. Still later, two fingers were introduced and the external orifice was stretched to the extent of two cm. The whole operation was exceedingly painful, as no anæsthetic was administered. During the dilatation the bag of waters was ruptured. Three hours later the external orifice had made very slight progress in dilating, while the woman was experiencing very strong frequently recurring pains. The cicatricial constricting fibres of the cervix were then divided in seven or eight places with a button-pointed bistoury. This operation was also accompanied by great pain, while the hemorrhage was insignificant.

One-half hour later, the birth reached its terminus. The child was a girl, mature, in good condition, weighing 3150 grms., and with a length of 50 cm.

"Conglutinatio orificii" has occurred about once in a thousand cases in the wards of Prof. Spaeth. The cause of the affection, according to Prof. Carl Braun, is either an abnormally short vaginal portion, which permits the mucous membrane of the fornix vaginæ to grow together, occluding the orifice, or a croupous or local inflammation of the external orifice, as above, or of the cervix, leading to the formation of cicatrical connective tissue, with subsequent contraction and obliteration of the orifice alone, or of a portion of the cervical canal. The first condition, the occlusion of the external os, is termed by Nägele, "conglutinatio orificii;" the second condition, the oganic connection of a portion of the mucous membrane of the cervix with the vaginal portion, is termed by Schmitt "conglutinatio organica." Prof. Braun is of the opinion, gathered from his immense experience of twenty-five years in the greatest obstetrical school in the world, that it is never necessary to make a bloody opening of the mouth of the uterus in case of "atresia orificii."

MEDICAL PROGRESS.

THE FILLET IN BREECH PRESENTATIONS.—DR. HEINRICH V. WECKBECKER-STERNFELD, assistant physician to the lying-in institution at Munich, contributes to a recent number of the *Archiv für Gynäkologie* a paper on the above subject. He points out that there are cases in which some help is required, in which traction by the unaided finger is inefficient, and bringing down a leg difficult and not devoid of danger. The blunt hook cannot be used without much risk of injuring the child; the forceps are apt to slip, and, indeed, can only get a hold by strongly compressing the pelvis. There are, therefore, cases in which traction by the fillet or loop is called for. The object of the paper, and our reason for quoting it, is to describe a new instrument invented and recommended by Professor Hecker, of Munich, for the purpose of getting the loop into position. It consists of a blunt hook having a very obtuse curve, somewhat that of a bladder-sound, and hollow from end to end. In this travels a steel spring, like that of Bellocq's instrument for plugging the nares. The tape (or strip of whatever material is preferred as a means of traction) is provided with a little pocket at one end, into which the extremity of the blunt hook fits. It is thus carried by the hook up on the outer side of the hip-joint, and over the the fold of the groin. The spring running inside the hook is then pushed forwards, made to protrude from the end of the hook, and of course carry before it the pocket on the end of the strip of tape. The elasticity of the spring makes it curl round the thigh, and then, of course, the end of the tape can be seized and drawn downwards, and an efficient means of traction is thus secured. The author gives an account of twelve cases in which this means of delivery was used. As the chief objection commonly urged against it is the risk of injury to the fœtus, we quote the results from this point of view. Four times deep pressure-marks were found; twice superficial excoriations. In one case a fracture of the humerus was produced in drawing down the arm, and twice fracture of the femur—in one case made in an unsuccessful attempt to bring down a foot, in the other during extraction by the loop. No maternal bad result was noticed, except in one case rupture of the perineum during extraction of the shoulders.—*Medical Times and Gazette*, September 2, 1882.

CAFFEIN IN HEART DISEASE.—The use of caffein has not become general in this country as yet. In England it has attracted some attention as a diuretic, and it has been used to some extent as a nerve tonic, Dr. Shapter having specially commended it in the treatment of nervous diseases dependent upon the abuse of alcohol.

Professor Lépine, in a recent paper in the *Lyon Médicale*, urges the use of caffein in the treatment of heart diseases, in the same class of cases in which digitalis is usually found valuable. He thinks that caffein pos-

sesses distinct advantages over digitalis, which he considers in detail.

He has been using caffein in these cases for four years, and has administered it to more than sixty patients. He maintains that the dose, to be effective in action upon the heart, must be considerably larger than that which has ever been generally administered heretofore. He gives from 60 centigrammes (9.25 grains) to 1.5 gramme (23 grains), and sometimes 2 grammes (30 grains), or even 2.5 grammes (37 grains). Such doses as are directed in the books he finds utterly inefficacious.

He found that this drug is equally effective with digitalis in retarding the rate of cardiac action and in increasing its force. In comparing the relative merits of the two drugs, he asserts that caffein acts much more rapidly than digitalis, which fact, though it may be of little importance in a chronic disease, may be of real importance where asystolia occurs as an acute condition. Secondly, he says that caffein is much better tolerated than digitalis, and if taken in divided doses during the day very seldom causes any symptoms of intolerance at all, such as are not at all infrequent in the administration of digitalis. This he attributes to the facility with which caffein is eliminated. Of course, where the kidneys fail to eliminate the drug it would be retained in the system, and would occasion disturbance, but he claims that the danger from this source is far less than that from the use of digitalis. Finally, he has found that by the majority of patients the caffein is preferred to the digitalis. He has repeatedly found this to be so in cases where he has used both drugs alternately upon the same patient.

On the other hand, there is a certain proportion of patients (he has found this true in about one out of twenty) in whom caffein produces insomnia and other nervous symptoms. While these cases are rare they do occur, and this condition is an absolute contra-indication to the use of this drug.

M. Lépine does not claim that caffein will cure all cases of asystolia, but does assert that it has all the merits of digitalis and some advantages over that drug. He promises to give reports more in detail of his own observations and of cases that have been reported to him by some of his colleagues.—*St. Louis Courier of Medicine*, September, 1882.

Inter-crico-thyroid Laryngotomy.—Dr. Launy (*Lyon Médicale*, June 12, 1882) deals exhaustively with this operation in a pamphlet issued by him within the last few months. The merits of the operation have been repeatedly discussed by various surgeons, but the objections to it have never been sustained by exact anatomical data. M. Krishaber, on the contrary, has proved that in the adult the crico-thyroid membrane was sufficient to admit the introduction of a suitable canula. Dr. de Launy has undertaken measurements on dead subjects, and he has been able to obtain a maximum space of from 12 to 14 millimetres in the adult—2 or 3 millimetres may be added by removing the cricoid cartilage. In the child, laryngotomy is scarcely possible except when over 12 or 13 years of age, when the crico-thyroid space measures at least 7 millimetres.

The operation is easy and clearly indicated. The author strongly advises the employment of the thermo-cautery of Paquelin. By operating slowly and at a dull red heat no bleeding of any consequence occurs. The vertical incision is sufficient and preferable; it permits the introduction of the canula without requiring previous dilation.

A complication accompanying inter-crico-thyroid laryngotomy is a dysphagia which occurs on the day of or the day after the operation, and lasts from eight to nine days. It is probably due to the pressure exercised upon the anterior wall of the œsophagus by the convexity of the canula.

He discusses the indications for and against the operation. It should be performed when the patient's life is in danger. One ought immediately to operate in pseudo-membranous laryngitis, œdema, burns of the larynx, or where foreign bodies are present. Sometimes laryngotomy is alone possible; for example in swelling of the vessels of the neck, in tumors which displace the trachea, and above all, in affections of the thyroid body. In this last case, it is advisable occasionally to overcome the obstacle by replacing the internal canula by an œsophageal catheter.

This operation is, nevertheless, contra-indicated when the lesion renders the crico-thyroid space insufficient to admit an ordinary canula. It is formally forbidden under the age of 12 years, and in the aged, whose crico-thyroid articulations are quite anchylosed.—*Glasgow Medical Journal*, September, 1882.

Strangulated Hernia: Wound of Intestine.—A woman, aged 35, who had for many years had a right inguinal hernia only imperfectly kept up with trusses, and who three months previously had had an abscess over the hernial sac, was admitted into the Necker Hospital under M. Trélat with all the symptoms of strangulation of the hernia. As taxis had already been tried, M. Trélat had her at once anæsthetized, and, after a further attempt at taxis, operated. On opening the sac he found the intestine bound to the sac by old adhesions. He proceeded to dissect through these adhesions, and while so doing the gut ruptured. The dissection was proceeded with, and then the wound in the intestine was closed with seven interrupted sutures, and, after careful cleansing of the parts, the gut was returned, the sac excised, and the wound closed by deep and superficial sutures. Next day the patient passed a motion. The wound healed by first intention, the drainage-tube was removed on the fourth day, and the patient recovered without any complication. This case is very encouraging, for the congested state of the intestinal walls was not favorable to rapid healing of a wound in it or to tolerance of sutures.—*Lancet*, September 2, 1882.

Gall-stones Discharged through an Abscess in the Right Groin.—At a recent meeting of the Cambridge Medical Society, Mr. Wherry related a case of gall-stones discharged through an abscess in the right groin. It occurred in a woman, under his care, who had an obscure swelling in the right inguinal region: an exploratory puncture discovered pus too thick to flow through the canula, but a free incision let out thick pus and over a hundred gall-stones. The finger passed into the wound in the direction of the gall-bladder; a large drainage-tube was then tied in the opening, through which gall-stones still pass. There was no bile, and no fecal odor. The patient had a remarkable history. She was for several years subject to attacks like ague. One year ago she first noticed in the right side of the abdomen a swelling, which enlarged painlessly until it could not be spanned by her hand; her bowels were regular, and she had no jaundice. Two months later the swelling appeared, from her description, to burst inside her, and she was immediately seized with violent cramp-like pains in the right lumbar and iliac regions. The swelling diminished, and she had now attacks of vomiting of dark fluid every five minutes for five days, and during this time she ate nothing; but when the vomiting ceased she had a ravenous appetite, and was able to walk about. Altogether she had five similar attacks of vomiting, lasting from three to five days each, followed by several weeks of health.

Mr. Wherry mentioned a case of three fistulæ from the gall-bladder which led respectively to the duodenum, colon, and skin. A biliary fistula has been known to communicate through the open urachus with the urinary bladder. Gall-stones are reported to have been found in the right bronchus and in the portal vein. Cases of biliary fistulæ opening externally are said by Murchison to occur usually in women, and to be caused by gall-stones, and even when connected with cancer, either worms or gall-stones are also found. In reply to Professor Humphry and Dr. Paget, Mr. Wherry said that he thought there must have been an abscess near the fundus of the gall-bladder into which the gall-stones were discharged after adhesions in the neighborhood: that as there were no jaundice and no pain the inflammation was limited to the gall-bladder and cystic duct. No bile came through the external wound, and the patient had a prospect of complete recovery. Columbus mentions that in the case of St. Ignatius Loyola a gall-stone was found in the portal vein, and an undoubted case has been recorded lately.

Dr. Paget mentioned the case of a lady he had seen some years ago in a desperate state of illness, when there was great pain and tension of abdomen; and when an incision was made, no less than 160 gall-stones escaped, though not all at once. In this case the patient recovered and lived for years. He referred also to another case, in which the patient passed a big stone, but died from cancer of the liver.—*Med. Times and Gaz.*, Sept. 2, 1882.

THE PHYSIOLOGY OF SECRETION.—DR. GAMGEE delivered an interesting address on the growth of our knowledge of the function of secretion before the Biological Section of the British Medical Association. The following are his general conclusions. The complicated studies of the physiology of secretion have brought into greater prominence the dignity, if I may use the expression, of the individual cell. The process of secretion appears as the result of the combined work of a large number of these units. Each, after the manner of an independent organism, uses oxygen, forms CO_2, evolves heat, and derives its nutriment from the medium in which it lives, and performs chemical operations of which the results only are imperfectly known to us, and which depend upon peculiar endowments of the cell protoplasm, of which the causes are hidden from us. So long as the protoplasm is living, the gland cell retains its power of discharging its functions, and in many cases does so, so long as the intercellular liquid furnishes it with the materials required. In some cases, however, the gland cells are specially sensitive to a variation in the composition of the nutrient liquid, certain constituents of which appear to stimulate the protoplasm to increased activity. In the higher animals, the cells, particularly in certain glands, are in relation to nerves which, when stimulated, affect in a remarkable manner the transformations of their protoplasm, leading to an increased consumption of oxygen, an increased production of carbonic acid, an increased evolution of heat, and an increased production of those matters which the cell eliminates and which constitute its secretion.

This historical survey of the growth of our knowledge of the process of secretion exhibits the characteristic features of biological advancement. Comparative anatomy has been the foundation of, observation of facts and physical experiment the road to, physiological research. At various stages the value of hypotheses has been well illustrated, and whenever they have had to make way for the broader and truer interpretations suggested by the accumulation of facts and greater precision of observation, it has been demonstrated that the process of observation is not one of simple sight, but of complex ratiocination.—*Lancet*, Sept. 2, 1882.

CEREBRAL PHYSIOLOGY; THE CROSSED ACTION OF THE BRAIN AND MEDULLA.—DR. BROWN-SÉQUARD has continued his vigorous criticism of modern neurological theories in another communication to the Académie des Sciences. He pointed out that these doctrines rest upon two kinds of proof, to one of which his paper was devoted—namely, to the evidence which has been drawn from the phenomena observed when various parts of the cerebrum are irritated; phenomena which consist chiefly in movements of the limbs on the opposite side. The foundations of the doctrine that movements of one-half of the body are innervated from the opposite half of the brain have been considerably strengthened by the experimental and clinical facts on which the theory of psycho-motor centres rests. But to this doctrine Dr. Brown-Séquard states that his own experiments are absolutely opposed. The numerous researches which he has undertaken during the last four years, seem to him to involve conclusions exactly contrary to the opinions which are universally received. For example, against the assertion that the irritation of the motor region of the brain uniformly produces movements in the limbs on the opposite side, he opposes certain experiments of his own. These show that irritation of one side of the pons Varolii or of the medulla, even of the anterior pyramid, causes, eight or nine times out of ten, movements of the limbs on the same side, and the same effect is observed when, after a transverse division of one-half of the medulla, the superior part of the pons is stimulated, mechanically or by electricity, in the part considered as a motor. Irritation of the cerebral peduncle in the part considered as motor often causes movements of the limbs on the same side. This result occurs five or six times in ten when the peduncle is irritated in its inferior part, and two or three times in ten when the stimulation is applied to the upper part. If the fibres are galvanized which pass from the corona radiata or corpus striatum to the peduncle, movements are often observed on the corresponding side of the body. If these parts are divided transversely on the right side or on the left, the mechanical excitation thus produced rarely causes movement, but when it does the effect is usually manifested on the same side as the irritation. Even stimulation of the motor zone of the cortex, as Couty has shown, sometimes causes movements on the corresponding side. Moreover, Dr. Brown-Séquard has repeatedly shown that if this zone is galvanized, after the lateral half of the medulla or of the pons Varolii is divided, the movements in the opposite limbs, instead of being prevented by this section, occur with still greater force than before the division of those conductors which have been believed to be alone capable of transmitting the stimulation of this zone to the limbs.

According to received doctrines, if one lateral half of the cervical cord is divided at the level of the second pair of nerves, and different parts of the brain are then stimulated mechanically or electrically, on the same or on the opposite side to the spinal lesion, no movement should occur, or only a very slight movement in the members on the same side as the lesion. But Dr. Brown-Séquard finds that under these circumstances, stimulation of the brain causes energetic movements of the limbs, such as a "bipedal" movement, diagonal or lateral, to right or left, or a movement of three, or even of four limbs. He concludes from this that one-half of the cord will suffice to transmit to the limbs, on both sides of the body, the excitation caused by stimulation of the opposite half of the brain.

According to received doctrines the transverse section of the two lateral halves of the base of the brain, the

one section at a distance of one centimetre above or below the other, ought to destroy all or almost all communication between the spinal cord and the portions of the brain above the higher section, so that mechanical or chemical excitation of the cortex should cause no effect on the limbs. But Dr. Brown-Séquard asserts that under these circumstances not only does stimulation of the motor centres act energetically upon the limbs, but the same effect is produced by stimulation of parts which are not considered to be motor, such as the opto-striate bodies. In this case, also, the effect is usually most marked on the same side as that stimulated. An analysis which Dr. Brown-Séquard has made of five-hundred cases of unilateral convulsions in consequence of varied lesions of the brain, shows that the same result is true of man as of animals. Irritation of the base of the brain and the adjacent motor region causes convulsions more frequently on the side irritated than on the other. The superficial parts of the brain, it is true, produce chiefly crossed convulsions, but irritation in all parts *may* cause convulsion on the same side.

The conclusions drawn by Dr. Brown-Séquard are that one of the chief foundations for the theory of psycho-motor centres, and of the crossed functional relation between the hemispheres and the limbs, must be considered to have lost its value; and, secondly, that the excito-motor zone of the cerebral surface, and indeed all the excitable parts of the brain, are capable of putting in action the limbs of the same side, as well as those of the opposite side, and that they may produce these effects after the transverse division of one-half of the pons Varolii, of the medulla, or of the cervical cord, and even after two sections of the base, one of the right half and the other of the left, provided a certain interval exists between the two.—*Lancet*, June 10, 1882.

Heat-stroke.—From a careful study of the subject, M. H. Longuet draws the following conclusions: First, as regards the pathology of the affection, he believes that failure of the heart is the essential symptom, possibly due to coagulation of the myosin of the heart muscle from exaggerated external heat; associated with this there is asphyxia from loss of respiratory power of the blood corpuscles. Clinically it is difficult to differentiate between heat-stroke and sun-stroke, possibly the cerebral symptoms are more pronounced, and occur more frequently in sun-stroke. Suppression of perspiration constitutes a grave symptom. In treatment, cold baths and douches are recommended, and subcutaneous injections of quinine, pilocarpine, and ether.—*L' Union Médicale*, August 22, 1882.

Contusion of the Popliteal Artery without Damage of the External Parts, followed by Thrombosis and Death.—The following case is reported in the *France Médicale*. A man, thirty-two years of age, was run over by an omnibus and brought to the Hospital Necker. The wheels of the omnibus ran over the lower limbs just below the knee-joints. The right limb was seriously damaged, and there was a good deal of bleeding, which was stopped by a tampon. On the left limb there was a large ecchymosis, without any damage of the external parts. Both knee-joints were infiltrated and immovable. On the following night there was noticed considerable friction sound under the knee-joint, Both limbs were treated antiseptically. The pulse was 100; temperature 86°, and the patient vomited. The next day all the symptoms were aggravated; temperature 80°. The left limb was cold, insensible, and no arterial pulsations. The patient vomited severely. The next day gangrene of the left limb set in. Antiseptic treatment was abandoned on account of the dark-colored urine. An operation was not determined upon, on account of the severe general symptoms (*sic!*). The patient died after being five days in the hospital. The autopsy showed a bi-malleolar fracture of the right limb and bloody infiltration. On the left limb the lesions were highly interesting. The articulation of the knee-joint was filled with blood. The subcutaneous tissue was largely infiltrated with blood, and the infiltration was dispersed through the muscular interstices down to the foot. The soleus muscle was partly ruptured, and torn from its superior insertion. The popliteal artery was not ruptured. On the posterior aspect of the tibia, the popliteal artery appeared to be blackened, and cylindrical in form. The external wall of the artery was infiltrated with blood and there was a complete occlusion, the artery forming a flat cylinder. This was caused by a contusion of the artery, which had been pressed between the tibia and the wheels of the omnibus. On opening the artery there was a dark clot, three cm. long, adhering to the anterior walls of the vessel. The inner coats were ruptured, and the adventitia infiltrated with blood. The aorta, the femoral artery, and the sigmoid did not show any signs of atheroma.—*Chicago Medical Journal and Examiner*, August, 1882.

The Chemistry of Putrefaction.—The chemical mechanism of putrefaction, and the nature of the alkaloids which result, is the subject of a recent communication to the Paris Académie des Sciences by MM. Gautier and Etard. They had previously shown that, as soon as the putrid fermentation of albuminous substances is well established, the reaction becomes alkaline, hydrogen disappears, and carbonic acid is released, at first rapidly, afterwards more slowly, mixed with a little nitrogen and with traces of phosphuretted and sulphuretted hydrogen. At the same time, the liquids contain ammonia, with a little trimethylamine, fatty acids, lactic acid, a small amount of oxalic acid, traces ef tyrosine, phenol, scatol, indol, guanidine, xanthine, and organic alkaloids. These substances are accompanied at the commencement by a mass of glucoproteins and a soluble proteoid substance, which disappears slowly. The authors of the paper believe that all this complex series of substances is due to the circumstance that the putrid fermentation breaks up the albuminoid molecule by a method of simple hydration, and reveals its complex constituents. The process really resembles the hydration of the albuminoids by baryta, which has been studied by Schützenberger, in which there is a similar liberation of ammonia and of carbonic acid, and of a like series of substances. Thus the albuminoid molecule is doubled under the influence of bacteria, just as under the influence of water aided by heat and alkalies; and it breaks up into two principal parts: one relatively resistant, from which the glucoproteins and later the leucines are derived; another unstable, forming ammonia and carbonic and other acids. It is supposed, therefore, that the odoriferous bodies observed during putrefaction, and also certain bases which may be obtained, must pre-exist in what is termed a "nuclear" form in the albuminoid molecule. To extract the basic substances the following method was found to answer best. The liquid products of putrefaction were acidulated with sulphuric acid and evaporated in vacuo, by which means the volatile acids, indol, phenol, etc., escaped. The residue was rendered alkaline by the addition of baryta, and then filtered and shaken up with chloroform, which dissolved the bases. They were extracted by fractional distillation of the chloroform and treated with tartaric acid. Potash added in excess to the tartaric solutions liberated a strong odor of carbylamine, and set free the oily bases, which could be separated by ether and dried in a vacuum. These resembled the bases described by Selmi: oily colorless liquids, bluing litmus, neutraliz-

ing strong acids, and giving with nitric and hydrochloric acids, ferrocyanide of potassium, and ferric salts, the reactions of ptomaines. They were precipitated by bromine, iodine, and the phosphomolybdates. They quickly became resinous.—*Lancet*, July 22, 1882.

CASE OF EXTIRPATION OF THE LARYNX.—At a recent meeting of the Würzburg Medical Society, PROF. BERGMANN presented a patient in whom he had performed extirpation of the larynx. The following is an abstract of the history of the case: The patient was a man aged 54, always in good health until the summer of 1880, when he began to suffer from hoarseness and dysphagia, and laryngoscopic examination made October, 1881, revealed the following conditions: The epiglottis was normal; on the left ary-epiglottic fold there was a large warty tumor; the left true and false vocal cords were fused together; the cavity of the larynx was greatly contracted, and the true and false vocal cords on the right side were thickened, reddened, and ulcerated. The restricted character of the disease led the author to hope for improvement under local treatment, but the laryngeal stenosis increased to such an extent that tracheotomy had to be performed on December 6th. Extirpation of the larynx was performed on January 16th. Prof. Bergmann found that the previous performance of tracheotomy was no advantage and indeed rather interferred with the operation: he therefore advises the non-performance of tracheotomy until after the thyroid cartilages have been cleared. And from the difficulty of dissecting off the constrictor of the pharynx, there is always a danger of getting into the space between the œsophagus and spinal column: he advises the division of the thyro-hyoid ligament, the seizing of the laryngeal artery with forceps, and the rapid separation of the larynx from the pharynx. The larynx is excised immediately below the cricoid cartilage, the first tracheal ring being previously fastened to the skin. The wound was treated with iodoform and corrosive sublimate gauze: three deep stitches were passed through the skin, to which the posterior wall of the trachea was fastened, and stitches were also passed through the mucous membrane of the pharynx. Healing took place without febrile reaction. The patient now wears a Brun's canula with which he is able to speak in a loud, clear voice.—*Deutsche Med. Woch.*, August 26, 1882.

RECOVERY FROM TRAUMATIC TETANUS.—At a late meeting of the Cambridge Medical Society, MR. SHIELD related the case of a lad who had recently been treated in the hospital for tetanus, and recovered, as follows: A healthy country lad, aged seventeen, was admitted on May 30. He was suffering from an extensive lacerated, contused wound on the flexor aspect of the left forearm, the result of the explosion of a gun. From June 23 to July 12 the symptoms were very severe, marked opisthotonos was observed, and the patient got rather emaciated. On July 10, the twenty-third day of the disease, it was on the wane. Gradually the spasms grew less severe, the bowels acted naturally, and the appetite improved, while the patient was walking about the ward, with his wound nearly healed, and all tetanic symptoms were gone. Throughout the whole case the temperature was, for the most part, above normal, presenting curious diurnal variations, while on several occasions it reached the height of 104° to 105°. The pulse was quick and weak, and varied slightly with the temperature. The tonic spasmodic condition of the muscles did not relax during sleep; and muscles of the eyeball and tongue were not affected. The superficial muscles were extensively disintegrated, the radial artery was torn away, but the main nerves had escaped injury, and the ulnar artery was intact. The wound was treated by poultices and carbolized oil, and all went well until June 17, when symptoms of tetanus set in, with slight stiffness about the muscles of the jaws and of the neck. On June 19 these symptoms had become more pronounced, well-marked trismus was present, with epigastric pain. By June 23 the disease was fully developed; severe spasms, especially of the muscles of the back, were constantly present, the tongue was foul, the breath offensive, the bowels were constipated, and the pulse quick, while the temperature was high and the urine scanty and high-colored. Excessive sweating was also present, so that an eczematous condition of the cutaneous surface was produced. The onset of the disease, therefore, occupied about five days. The treatment adopted depended chiefly upon feeding and nursing. Plenty of good milk and eggs, with port wine and brandy, were frequently administered both by day and night, and fortunately swallowed and retained by the patient. Hypodermic injections of morphia were administered every evening, when the anguish was severe, and caused relief and some snatches of sleep. The bowels were relieved by enemata, and during their peristaltic action the patient seemed to have his sufferings increased, but after the evacuation the pains were alleviated. He smoked tobacco twice, and this gave him some relief from the accumulation of mucus in the fauces.

PROF. HUMPHRY had seen a great many cases of tetanus, and had arrived at certain conclusions respecting it. First, that it is a passing malady depending, probably, like small-pox, scarlet fever, and others, upon some blood-poisoning; like them, being amenable to no known curative treatment, but running a certain course and subsiding, provided it did not kill the patient in its course; that, like them, it is fatal in proportion to the acuteness and severity of its onset. Of the rapidly progressing cases very few survive, whereas in those which come on more tardily, and more particularly in those in which the patient continues to be able to take food, a favorable result may, by good management, not unfrequently be obtained. Secondly, that the disease is attended with much wasting and exhaustion, sometimes with high temperature, and that the most important feature in treatment is to give nourishment, which must generally be in a fluid form—milk, eggs, beef-tea, wine, etc.—as much as the patient can take. While food can be swallowed there is hope. It must be urged upon the patient, who is often reluctant to take it; and no other treatment should be allowed to interfere with this. Sedatives, such as morphia, hypodemically injected, tobacco, and others, come in as adjuncts in the more severe cases, but are better abstained from unless the case is severe; and reliance should be placed solely on the feeding, with attention to the bowels, it being commonly necessary to give aperients. The worst case he had known to recover was that of an infant in whom the removal of a considerable tumor from the back of the neck was followed by tetanus. The spasms were so frequent and so severe that on several occasions the child was thought to be dead; and in this case, as in others he had observed, the seizures were most severe after a very prolonged interval, as after sleep. Still the child swallowed milk. The milk was sedulously given, no other treatment being allowed, except subjecting the child to the fumes of tobacco smoked by persons near it, which was thought to do some good; and in other cases he had found tobacco, smoked or administered in a mild form, to have a soothing effect. He had kept patients persistently under the influence of chloroform, without any benefit. The maintenance of strength by nourishment, so as to enable the patient to tide over the attack, is the great thing to be aimed at. —*Med. Times and Gazette*, Sept. 2, 1882.

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PRE-HISTORIC SYPHILIS IN EUROPE.

THE interesting question as to the antiquity of syphilis which has for many years been discussed intermittently in medical societies and journals, and which seems to have lost none of its historic, or rather its archæological, interest, has recently received two valuable contributions. In the *Annales de Dermatologie*, for January and February of this year, M. Rollet very learnedly reviewed the subject, and showed how it is proved by the documents of the priests in India, by the records of voyagers in China, of explorers in Africa, and of historians and discoverers in America, that syphilis existed in all these countries from the remotest periods. In Europe alone, according to M. Rollet, of all the countries of the world of which we have any definite knowledge, did syphilis remain unknown up to comparatively modern times—the end of the fifteenth century—and he adds that investigations among fossil remains and in old cemeteries only serve still further to establish this fact, by the absence of any syphilitic lesions upon the bones thus exhumed. The one exception which has hitherto been quoted in opposition to this was the discovery of syphilitic exostoses upon the right tibia of a female skeleton, disinterred at the Solutré. These have been described by Broca, Ollier, Parrot, and Virchow, but their value as evidence in regard to the date of appearance of syphilis was destroyed by the Abbé Ducrost, to whom their discovery was due, but who raised grave doubts as to the antiquity of the sepulchre.

In the *Revue Scientifique*, for July 22d, M. Parrot takes up the subject in an interesting paper, describing, first, the characteristic appearances of cranial and dental syphilis, then those of three American skulls obtained from ancient cemeteries, and finally, with much minutiæ, the teeth and maxillæ of a young person from a place of burial belonging to the Merovingian epoch, antecedent to the seventh century, and others with pieces of the cranium from excavations in the caverns of Lozere, and elsewhere, and undoubtedly of pre-historic date.

The well-known appearances of hereditary osseous syphilis were here unmistakably present. Upon the external face of one of the fragments—a portion of a parietal bone—there was a layer of new bony tissue, hard, porous, with a rounded border terminating abruptly at the healthy bone, made up of trabeculæ, perpendicular to the surface beneath; in other words, having the characteristics of the osteophytes which are seen daily upon the skulls of children attacked with hereditary syphilis. In other specimens similar growths were observed, and several of the incisor teeth presented the unmistakable notching and grooving which belong only to syphilis. M. Parrot seems to have well established the antiquity of his specimens, giving his authority and the place of disinterment in each case. His usual accuracy of observation and his large experience in such cases are well known, and the appearances he describes are beyond all doubt those of syphilis. If all these facts remain undisputed, it is the most conclusive contribution to the literature of the subject which has yet been made. The existence of very ancient syphilis in America has long ago been demonstrated. The writer has seen ten years ago, at this very cemetery near Callao, from which one of M. Parrot's American specimens was taken, and which seems to be inexhaustible, a number of skulls showing evidences of syphilis. Dr. Jones, of New Orleans, has proved its presence among the mound-builders of North America. Numerous facts, as we have stated, establish its existence in most of the countries of Asia and Africa, but this seems to be the first clear demonstration of its prehistoric existence in Europe. We shall look with interest for corroborative evidence upon the subject.

THE MEDICAL PROFESSION AND ITS MORALITY.

The *Modern Review*, an English publication rarely seen in this country, lately had an article with the above title, in which Miss Cobbe, "a ruthless critic" indeed, makes a most outrageous and untruthful attack on the profession. In succeeding numbers of the *Review* Dr. Wm. B. Carpenter and "two members of the profession," and finally Dr. Blackwell, make replies, which, in their facts, are ample; but we must confess that as to style the assailant has a

vigorous English at command that is wanting in the defence. True it amounts almost to fretful vituperation such as Gail Hamilton uses in her "Spent Bullet," but it has all the stiletto-like thrusts, the epigrammatic style that characterize Miss Dodge's nervous English.

The animus of the authoress is especially shown by the cant as to vivisection, vaccination, the Contagious Diseases Acts, and the attempted exclusion of women from the profession. All the venom that can be put into language is used in discussing these questions.

We are told that this dreadful profession is meddling, despotic, arrogant, and with the aid of a bullying medical press they are even dictating to parliament. They are "Modern Inquisitors," a "parvenu profession with the merits and demerits of the class."

Both authoress and editor endeavor to make it appear that the charges are not against the profession as a whole, but only some members of it. If anybody can draw any other inference than that the authoress means the great bulk of the 45,000 doctors of Britain, with comparatively few exceptions, we mistake the impressions produced by ordinary language. True, she is expressly indignant at the fashionable doctors of the great cities and of the health resorts, but her denunciations are too sweeping to apply to them alone. So, too, she excludes the greater crimes, murder, seduction, etc., but with such damning "if's" and "but's" that every doctor feels she smirches him by her touch.

The cruel slanders that the doctors' kindness is merely a part of their "stock in trade," that they spread a trail of cold and slimy doubt in their track, and the dark hint that their facilities for concealing crime are equal to those for committing it, so far transgress the daily experience of every one in the community, that we dismiss them as unworthy even of an attempt at refutation.

But what are the charges? They are five in number. First, that in our scientific enthusiasm we forget the patient and study the disease instead of curing it. She abhors the doctor who would "study patients to acquire science," but honors the physician who "studies science in order to cure his patients." The Lord help such logic! As if science, which is to be studied in order to cure patients, were not the result of previous study of the patients.

But, not only do the doctors experiment upon their patients in hospitals and even in private practice, but they add to the bodily anguish the "moral tortures of outraged modesty," lest Mr. Bob Sawyer and his ilk be disappointed. Moreover, both to keep their hands well "in," as well as to exact enormous fees, the surgeons operate needlessly, and she tells a pathetic story of a pair of most beautiful eyes in a handsome head preserved by a refusal to be "relieved of one splendid orb," and pay $400 for the loss. We leave such logic again with uplifted hands, for more serious charges lie beyond.

Secondly, the pecuniary interests of the patient are sacrificed to those of the profession. As evidences she points to the semi-charlatan recommendations of waters and wines and such rubbish; to the new remedies, which are "costly fads of medicine," and are as changeable as the fashions; to the reckless multiplication of expensive prescriptions and incidentally hints at an "*entente cordiale* between the doctor and the druggist." Most of these have really some food for thought. But the next point is even a more serious one. "How far do medical men generally, really, and honestly strive to cure their well-paying patients?" she asks. Of positive evidence she admits there is none, but again she uses damning "presumptions," and intimates a strong belief that at least the rich are kept ill and made to pay well for the luxury. Suppose a specific for gout, neuralgia, or dyspepsia were found, what welcome, she asks, would it receive from the medical profession? In answer we point to quinia in ague, to the iodide of potash and mercury in syphilis, and to her despised and abhorred vaccination in small-pox. She points out, it is true, that in thirty years the doctors have received for vaccinations some $8,000,000 from the "rates" independently of private fees, and thus accounts for the "zealotry and cruelty wherewith this medical 'rite' is upheld." But we would ask in return what would have been the fees if small-pox had been let loose upon the community? Not less than $50,000,000, and perhaps far beyond even that large sum.

But thirdly, we are a trades-union. Consultations are a mere formality or rather a "solemn farce," and when the farce is ended Dr. A., after eating an excellent luncheon in the house of mourning, pockets his magnificent fee, rides in luxury to the station, and reads on his way up to town a charming article on the intense sympathy of medical men. He "has told a shameful and cruel lie, and has taken money from the very victim of his falsehood." We ask with confidence her own question: "Let us, for heaven's sake, know where we stand. Will the doctors tell us the truth beside the sick-beds of our friends, or will they *not?*" and we answer unhesitatingly *they will and they do.*

The fling at coroners who may aid in covering up crimes committed by medical men is so little applicable in this country, and we believe is so utterly untrue in England, that it is not worth our consideration.

The fourth charge that the profession has been doubly treacherous to women in passing the Contagious Diseases Acts, and in endeavoring to exclude

them from the profession, is so trite a subject that we need not say a word about it.

Lastly, the profession is so aggressive, that give them a chance, and in two-score years or so the doctor will lord it over "birth, marriage, education, employment, sickness, and death," and on the heels of his certificate, attendance or sanction, a large fee will follow of course—in short, personal liberty will be gone and the community will be reduced to two classes—doctors and their helots.

The editor says at the close of the article: "It is not without a grave sense of responsibility that we publish the above article," on the ground forsooth that the clergy and the lawyers have been criticised, but the doctors have escaped it (?!).

Besides the erroneousness of this contrast, we submit that the article as we have outlined it is not criticism, but calumny. Fair criticism we invite. Calumny we must and we do protest against and repel, both for our English brethren and ourselves.

PERFORATION OF THE BOWEL AND ITS TREATMENT.

WE have lately alluded to the proper surgical treatment of perityphlitis; of gunshot wounds of the abdomen, and also to the general question of the more radical *versus* the more conservative surgery of the abdomen. Allied to these topics is the question of the treatment of perforations of the bowel either in typhoid fever; from ulceration caused by foreign bodies in the cæcum or the appendix vermiformis; by fecal abscesses in the left groin, and other similar conditions. The tendency of the present day in the surgery of the extremities, on the one hand, is justly growing more conservative, as resections and osteotomies, mechanical treatment, and other similar procedures amply attest; but, on the other hand—and this tendency is unquestionably the right one—it is more and more towards radical treatment in the surgery of the abdomen, especially since our methods have so far improved as to make laparotomy one of the more successful instead of one of the most dangerous operations.

In the case in hand, where perforation has occurred, with escape of the contents of the bowel into the peritoneal cavity, what may we reasonably—nay, certainly—expect? Peritonitis, collapse, death, in from a few hours to a few days. Look at the forty-seven cases collected by Lewis in 1856 of abscess of the appendix vermiformis usually followed by perforation. Forty-six deaths! one recovery! Could any operation have been followed by a higher mortality?

In typhoid fever it may often be a question whether it is advisable to do any operation in view of the general condition of the patient. But even here an operation might sometimes be justifiable. But in cases of perforation of the appendix, or of ulceration of the bowel—supposing that it may be ascertained with reasonable certainty—we believe that the abdomen should be opened, the matters that have escaped be removed as thoroughly as possible, the opening sewed up by a "purse-string suture," or otherwise according to circumstances, and that the patient will thus have a better, a far better, chance of recovery than if he be let alone. The latter course has but one termination; the former has a possibility, though a poor one, of two. Lewis asked the question in '56. We are just beginning to consider the answer after the lapse of a quarter of a century.

INHIBITION AND DYNAMOGENY.

WE owe these new observations on the nervous functions to Brown-Séquard. The terms will now be so largely employed that our readers, we doubt not, will be pleased to have some information about them.

By *inhibition* is meant an action by which an activity or a function is, suddenly or nearly suddenly, suspended and apparently annihilated.

The inhibitory faculty or property appertains to a great number of parts of the nervous system, and may be put in action in a direct or reflex manner. All of the activities, all of the normal or morbid properties of the central or peripheric nervous system, and consequently all the functions of this system may, perhaps, be inhibited. The irritability of contractile tissues may also be inhibited.

That which is true of inhibition is also true of *dynamogeny*, which means the power to make potential energy actual. Thus, to take an illustration from Brown-Séquard's experiments, irritation of a certain area of the skin, on the face usually, will cause an epileptiform seizure in those guinea pigs affected with the artificial malady. Such an area is *dynamogenic*, in that it possesses the power to so irritate the spasm centre as to make the potential energy there stored up take on an active phase.

The dynamogeny which is due to irritations of the skin, and of some parts of the nervous system in animals, may be made to attain a degree of activity six to ten times that of the normal state. In man the tactile sense may become dynamogenic to such a degree that the points of the æsthesiometer may be perceived on the back at a distance one hundred times less than the ordinary distance.

Inhibition and dynamogeny are in general produced simultaneously by the same irritation. The pretended motor centres in the encephalon may be inhibited or dynamogenic as other parts of the nervous system. The increase of strength of the spinal cord as a motor centre, and of other parts of the nervous system which contribute to the muscular sense, may attain to an enormous degree.

The phenomena of increase and diminution of force, the properties exhibited in Braidism and hypnotism, and the transfer of anæsthesia, also pertain to inhibition and dynamogeny.

THE TREATMENT OF CONSUMPTION BY ELECTRICITY.

ALTHOUGH not a new expedient, nor a novel application of an old one, Dr. Alavoine's method and its results deserve attention as additional proof of the efficacy of treatment which has, hitherto, attracted but little attention. He employs an induction current, and by means of it excites in turn the nerves engaged in the respiratory acts. He, also, stimulates the pneumogastric nerve, and thus lessens the action of the heart, and consequently diminishes pulmonary congestion. He applies a small olive-shaped metal electrode in the fossa behind the angle of the lower jaw, and a corresponding one over the pneumogastric near the sterno-clavicular articulation. Commencing with feeble currents, he continues the applications, slightly increasing their strength, for a quarter to a half hour. The immediate effect is a dilatation of the lungs, an increase in the depth and amplitude of the respiratory movements, and a diminution in their number. The expectoration is at first notably increased, after a while it lessens, and ultimately almost ceases, unless there is very extensive softening and destruction of the pulmonary tissue. At the same time the fever lessens, the respirations become more easy and deep, the condition of the blood improves, sleep is free from dyspnœa, nocturnal sweats disappear, the appetite returns, and the process of repair begins.

PROF. WHITTAKER'S LECTURE ON THE BACILLUS TUBERCULOSIS.

OUR readers have been more than usually delighted with the charming letters of J. T. W., our correspondent on the Continent, relating chiefly to Koch's recent discovery of the alleged bacillus of tuberculosis. Prof. Whittaker—of whom our Cincinnati friends may well be proud—reached this country a few days ago, and on last Monday, at the invitation of the College of Physicians of Philadelphia, he delivered a lecture on Koch's discovery, at the Hall of the College, before a large and interested audience consisting, to a great extent, of leading men of the profession. Dr. Whittaker not only gave in some detail Koch's methods, but also placed under five microscopes several slides illustrating the results—especially the bacillus of milz-brand, of perlsucht, and of tuberculosis. The lecture was admirably given, and our readers who did not have the rare treat of a personal hearing, will have the pleasure of perusing its substance in our columns next week.

The unanimous "aye" which responded to Prof. S. D. Gross's motion for a hearty vote of thanks, was but the expression of the feelings of all present.

THE NAVAL MUSEUM OF HYGIENE.

SURGEON-GENERAL WALES, of the Navy, has organized a "Museum of Hygiene," which has, it appears, been made the "permanent central repository" of the American Public Health Association. Singularly enough, in a museum of hygiene under the control of a naval bureau, we find almost no provision for naval hygiene. One of the classes (19) is water transportation, one (39) marine architecture, and one (37) hospital ships, but these do not embrace the great and important subject of the health of seamen. Soils, sewage, water-supply of towns, factories, hotels, etc., are subjects to which the museum is to be devoted, and many others equally foreign to the naval service. The museum of hygiene is commendable enough, but, surely, it ought to have a special direction, since Congress has authorized its establishment by the Bureau of Medicine and Surgery of the Navy. If a repository of the Public Health Association, it should, also, illustrate all the conditions of naval hygiene.

THE EASY PREPARATION OF CATGUT LIGATURES.

WHETHER one pins one's faith to the antiseptic system or not, the use of catgut ligatures is so important and so general that we call attention anew to the simple and easy method of preparation which Mr. Lister introduced and published last year. Any doctor can prepare them for himself within a couple of days, and keep them constantly on hand.

Add one part of chromic acid and 200 parts of carbolic acid to 4000 parts of water. To this mixture (as it undergoes change in a short time) add immediately 200 parts of catgut of suitable thickness. After soaking for forty-eight hours, dry the catgut and place it in a mixture of carbolic acid and sweet oil, a drachm and a half to the ounce (1 to 5), in which it may be kept indefinitely.

RELATION OF ATOMIC WEIGHT TO TOXIC ACTIVITY.

RICHET has conducted an elaborate research on the metals of the alkalies, to determine whether there is a relation, as has been supposed, between the atomic weight and the toxic power.

To determine with precision the lethal dose, Richet employed the same species of animal, administered the quantity with regard to the weight of the animal, and injected the solution under the skin and not into the blood. He found that in the series of alkaline metals there was no relation between the atomic weight of the metals and their physiological activity. Thus rubidium, which has a high atomic weight (80), is much less active than sodium, which is much lower (23).

SOCIETY PROCEEDINGS.

CANADA MEDICAL ASSOCIATION.

Fifteenth Annual Meeting, held at Toronto, September 6, 7, and 8, 1882.

(Specially reported for THE MEDICAL NEWS.)

THE Fifteenth Annual Meeting of this Association was opened in the City Hall, Toronto, on Sept. 6th, under the presidency of PROF. FENWICK, of Montreal.

The Chairman of the Committee of Arrangements, DR. CANNIFF, welcomed the Association to the city, and announced that the programme which had been made out was ready for distribution.

The minutes of the previous meeting were read by the General Secretary, DR. OSLER.

Dr. Elsberg, of New York; Dr. Walker, of Detroit; Dr. Goodwillie, of New York; Dr. Lough, of Bermuda; and Dr. Field, of Barbadoes, were elected members by invitation. Dr. Brodie, of Detroit, was present as delegate from the American Medical Association. The

REPORTS OF THE VARIOUS COMMITTEES

were then taken up. On *Necrology*, by DR. FULTON, who presented a list of the members who had gone to their last resting-place since the previous meeting. On *Medicine*, by DR. GRAHAM. The chief topics touched upon were the International Medical Congress and its results, and the discovery by Dr. Koch of the bacillus of tuberculosis. At this point

DR. W. B. CARPENTER, OF LONDON,

entered and was enthusiastically received. On the motion of DR. ADAM WRIGHT, he was elected an honorary member.

At the request of the President, DR. CARPENTER addressed the meeting on the subject of

ZYMOTIC DISEASES AND VITAL STATISTICS.

The following is an abstract of his remarks: He emphasized the advantages of a strictly uniform system of taking statistics, such as prevailed in Great Britain. The system of tabulating had been inaugurated by Dr. Farr, to whom they owed much in connection with this subject. He paid a high tribute to the labors of this gentleman. Sir John Pringle's treatise he regarded also as of very great value, and one of the earliest to call attention to the group of zymotic diseases. Sir John had been connected with the army, and wrote a book on diseases of the army, and also a treatise on fermentation. The speaker then referred to the possibility of the transmutation of certain of these affections. Some examples were given. At the conclusion of the rebellion of 1745 a number of the troops were shipped off in little brigs. Some of the men were suffering under the mild autumnal fever. The brigs knocked about for six weeks, and for part of the time the men were enclosed under hatches without ventilation. In consequence of the unsanitary conditions the fever changed by the process above referred to into a malignant typhus. They landed, and the disease spread among the villages in which the men located. Another instance had come under his observation of the malarious fever of the west coast of Africa changing under similar conditions into yellow fever of a contagious character. The men suffering from a milder fever had been brought under the influence of bilge water in the vessels, and the result was the transmutation of the mild fever into malignant yellow fever. Dr. McWilliam and others had reported similar cases of convertibility of these kinds of fever. No general doctrine, he said, could be right that did not take into account these cases of transmutation, because the evidence of such cases was beyond dispute. When he was in Edinburgh he had a conversation with Sir Robert Christison, whose clinical clerk he had been forty-five years ago, and that gentleman had expressed the opinion that no distinct line could be drawn between certain kinds of fever. In his practice in Edinburgh Sir Robert had found cases of variation and transmutation of the nature he had been referring to. Before ever Darwin's views were laid before the world, and quite apart from theory, he (Dr. Carpenter) and other medical gentlemen with whom he had discussed the subject had held decided opinions regarding the variation and convertibility of disease. The medium in which germs are developed had been found to alter, in a very great degree the nature of the disease resulting. For example, when the germs were developed in a subject predisposed in any way, the nature of the disease was very different from that produced from the same germs in a subject not so predisposed.

The rate of mortality from non-zymotic diseases was practically the same in town and country and in towns of different characters. The annual mortality from zymotic diseases in London, with a population, taking in Croyden and the whole metropolitan area, of about 5,000,000, was not more than 15 or 16 in the thousand. In other cities and towns the rate was much higher, arising from the fact that in these latter places sanitary reforms and means of preventing disease from transmutation into malignant type were not properly attended to. In a certain place of industry fine-looking houses were built on a foundation of chalk, and the sanitary condition of the locality was brought before the Board of Health. The chalk had become saturated, and the Board recommended thorough drainage. A dispute arose. The place was divided into a clean and dirty party. The latter party prevailed, and drainage was deferred. The consequence was an outbreak of cholera of the most malignant type, which he had no doubt would have been prevented by proper means. He was of opinion that the late illness of the Prince of Wales had done a great deal to introduce sanitary reform in England. Vital statistics proved of the utmost importance in showing the causes and conditions of these malignant outbreaks and the conversion of mild into severe types of disease.

Dr. Carpenter next spoke on the subject of smallpox. During late years he had had occasion to fight the opinions of anti-vaccinators. The recent outbreak of smallpox on the continent of Europe was of a singular character. It had not before been epidemic since the middle of the last century. Since 1871 in London the mortality of the non-vaccinated had risen as high as 45 or more per cent. In the year 1612 the old form of black smallpox had devastated the whole of Europe, and the mortality had been as great as in the case of the plague—in many cases death occurred before the eruption came out, the patients dying from hemorrhage under the skin and in the bowels. Against this malignant type inoculation of a milder type had been successfully tried as a means of protection. As to the origin of this malignant type, he had not the least doubt it arose from overcrowding of the soldiers in the French military habitations. It was proved beyond doubt that thorough vaccination and proper sanitary measures were the best possible protection against a malignant type of smallpox. No child properly vaccinated had ever been afflicted with anything but a mild type.

A matter of great importance was the using of proper vaccine virus. There was no doubt it became eventually deteriorated by transmission through the human body, and the results were not always satisfactory. When properly cultivated and taken directly from the cow the effect was quite different. When the

great epidemic visited San Francisco the public seemed thoroughly frightened. The municipal authorities enacted that all the school children should be vaccinated. This was done with good results, and notwithstanding the unfavorable habits of the Chinese in the course of a few weeks, by isolation and vaccination, the epidemic had been brought under control.

In the Baltimore poorhouse in 1849 he had heard of a remarkable result of the adoption of proper sanitary measures. The site of the poorhouse had been selected for its salubrity. When the cholera prevailed all around, there were very few cases in Baltimore. But strange to say there was a great outbreak in the poorhouse. Forty or fifty cases occurred every day, and many were fatal. The Board was summoned in great haste, and there was something approaching a panic. One member, more sagacious than the rest, examined behind one of the walls, and found a rank marsh overgrown with grass. Into this marsh all the excreta was drained. All those located on the side next the marsh became ill first, and the mortality was great. The marsh was immediately drained, scoured, and covered with lime. The next day there were very few fresh cases, and on the third day there were none at all. At a meeting of clergymen he had expressed the opinion that in former times an epidemic of this kind was regarded as a visitation of some deity. Such a case as that referred to, was no doubt an infraction of law, but would a remedy have been effected if all the people of Baltimore had gone down on their knees for a week? To the medical profession these remedies were entirely due, nothwithstanding that they were in introducing these preventive measures, acting directly against their own interests.

DR. SWEETLAND, of Ottawa, moved a vote of thanks to Dr. Carpenter for the very able address he had delivered. He thought the remarks of Dr. Carpenter should be put into effect, by pressing upon the Government the establishment of a bureau of statistics for the proper registration of zymotic and non-zymotic diseases, so that proper sanitary steps might be taken in cases where such steps might be considered likely to be of advantage.

The vote of thanks was seconded by DR. OLDRIGHT, and very heartily acquiesced in by the members present.

DR. OLDRIGHT desired to know what was done in the matter of health statistics in Britain, the connection of wells and sewage, and the isolation of contagious diseases.

DR. PLAYTER suggested that the matter be delayed, as the time at present was too short to enter into the subject.

A number of new members were elected, and the meeting adjourned to meet at 4 P.M. in sections.

The afternoon and evening sessions were devoted to work in Medical and Surgical Sections.

AFTERNOON SESSION.—MEDICAL SECTION.

DR. MCDONALD, of Hamilton, *Chairman*. Dr. STEWART, of Brucefield, Ont., *Secretary*.

ECHINOCOCCUS DISEASE IN AMERICA.

DR. OSLER communicated the results of an inquiry into the prevalence of the affection on this continent, and stated that he had been able to collect from the journals and private sources 61 instances. Drs. Temple and Graham each narrated a case.

AXIS TRACTION AND TARNIER'S FORCEPS.

DR. CAMERON, of Montreal, read an elaborate paper on this subject, illustrated by diagrams, etc. The head followed the axis, and the problem to be solved was the best means of assisting nature. Some advocated traction, some leverage, some compression, others a judicious combination. He exhibited different specimens of the forceps, and explained the difference between the *vis a tergo* exerted by nature and the *vis a fronte* of the forceps. There were three kinds of forceps, the straight, the pelvic curved, and the curved with detractors of Tarnier. The advantage of the straight forceps was that they did not interfere with the natural rotation of the head, but a great disadvantage was that when the head was high up the instrument could not fail to come in contact with the coccyx. There was also the liability to slip and injure the perineum and soft parts. The curved forceps were less liable to slip, but the line of traction was not in the axis of the pelvis, and if the instrument was so adjusted as to bring the line of traction right, it would be sure to come in contact either with symphysis pubis or the sacrum. To combine the advantages of these two kinds of instruments and eliminate their disadvantages, Tarnier had invented his double detractor, which had the advantage of action along the traction axis and at the same time permitting the natural rotation of head. The objections urged against Tarnier's instrument was its clumsiness and cost and the danger of injuring the internal cavity.

DR. HOLMES, Chatham, said he had been accustomed to use the forceps in the manner recommended by Dr. Albert Smith, both as a lever and as a detractor. He also found it advantageous to advise the woman to abstain from direct pressure, and he had thus been enabled to avoid laceration.

DR. TEMPLE remarked that he was not prepared to concede all said in favor of Tarnier's forceps; they have not had sufficient use for their universal adoption in all cases; they are expensive, cumbersome, complicated and difficult to keep clean; the only advantage he thought they have over the double curved long forceps is in posterior occipital positions; in this position their traction is very similar to the long straight forceps, which are much more easy of application in this position than the curved forceps and less liable to slip. He was much in favor of simplicity in obstetric forceps.

DR. STEWART, of Brucefield, could not see the advantage of Tarnier's forceps over the older forms. He had seen in Vienna cases of rupture of the vagina and death after the use of this instrument.

THE USE OF THE UTERINE SCOOP IN INEVITABLE ABORTION.

DR. ALLOWAY, of Montreal, gave his experience of the use of this instrument in 20 cases. He strongly recommended its use instead of the placental forceps. He criticised at length certain of the views on the treatment of abortion.

DR. TYE, of Chatham, said he really thought they were passing through the iron age in the matter of obstetrics. After seeing all the forceps and scoops and other iron instruments, he really congratulated himself that he was not a woman. In his practice he relied chiefly on the instruments provided by nature, and he found them very suitable.

DR. RODGER, of Montreal, while he disapproved of undue multiplicity and complication of instruments, yet thought that the valuable assistance rendered by them could not be overlooked. He spoke in favor of the tampon and placental forceps in abortion. After their use, and twenty-four hours' plugging of the os, matters were found in a satisfactory condition.

EVENING SESSION.

At the opening of the evening session, the PRESIDENT delivered

THE ANNUAL ADDRESS.

He thanked the Association for the high honor they had done him by electing him to preside. He referred

to the importance of the Association and the important and responsible position held by the honorable medical practitioner. He explained the mode adopted by the Association for the transaction of business and the spirit in which the work of the different sections should be carried on. It was an important matter to meet together and compare notes on matters relating to their profession. He spoke of the important functions performed by the British Medical Association, and said they might look to that Association for an example of what the Canadian Association might be, and the important work within its scope. He traced the history of the Medical Association, and gave it as his opinion that they might have been celebrating their jubilee, as the British Association was now doing, had it not been for the disagreement which at one time marked the proceedings of the Association and interrupted its existence. He hoped harmony would now exist, and that the work of the Association would ameliorate the status of the profession in Canada. He dwelt at some length on the subject of sanitary legislation, which was now so much attended to in Britian. He hoped the same attention would soon be devoted to the subject at Ottawa. The sum of $10,000 had been placed at the disposal of the Minister of Agriculture for the collection of statistics. But unless the matter received the approval and support of the medical profession throughout the Dominion this sum would do little towards obtaining reliable information. He thought operations of collecting statistics should be limited at the outset to certain cities to prevent failure, and a committee should confer with the authorities at Ottawa. The committee appointed at the last meeting should be desired to continue their work.

SURGICAL SECTION.

DR. GRANT, of Ottawa, *Chairman*. DR. ROSS, JR., of Toronto, *Secretary*.

SPASMODIC TORTICOLLIS.

DR. RODDICK, of Montreal, exhibited a patient who had suffered for many months with a very painful spasmodic contraction of the muscles of one side of the neck. The man was obliged to hold his head in his hands if he wished to keep it steady, and this was only temporary. Electricity and many other remedies were tried in vain, and Dr. Roddick divided some of the muscles subcutaneously with but little benefit. The actual cautery was applied on several occasions to the back of the neck with the most satisfactory result. The man recovered completely.

REST AND TRACHEOTOMY.

DR. MAJOR, of Montreal, advocated rest in all diseases of the throat, and rather denied the harm sometimes attributed to over-rest, claiming that (unless under tracheotomy) perfect rest was not attainable in the larynx, as the function of respiration had to be carried on even if that of phonation were suppressed. He reported results in cancerous disease of larynx and laryngo-pharynx, and held that the rest secured by operative or other means certainly controlled development, diminished the suffering, and prolonged life. He placed on record certain glandular enlargements under the sterno-mastoid muscle as an early means of diagnosis in malignant disease of the larynx, and gave in support his experience of seven cases, also attesting to the absence of these glandular enlargements in chancroidal, syphilitic, or other disease of this organ. He also upheld rest in warty growths and in tuberculous disease, and reported a number of cases having direct bearing on this point. He recommended a gold canula, as his experience with this metal justified him in doing so—it was less liable to irritate, and was not so easily acted upon by the secretions as silver; his notice was first attracted to gold as a substitute for silver, on finding that a gold plate which had lain in the trachea at its bifurcation for 113 days had not been acted upon. Gargles received a very warm denouncement, as a flagrant violation of the principle of rest was necessitated by their use. Dr. Major also explained the mechanical principle of gargling, and conclusively showed its uselessness as a means to the end for which it was intended.

DR. RYERSON entirely agreed with Dr. Major in regard to the value of rest in laryngeal troubles.

DR. ELSBERG, of New York, said he held that it was the duty of those who devoted themselves to special subjects to give the results of their special knowledge to their brother practitioners. He had some years ago had his attention drawn to the fact that the principle of rest in cases of inflammation applied to the throat as well as to any other part of the body. Under the influence of rest inflammatory conditions subsided, and perhaps gave way to renewed action. The larynx was moved in three functions, namely, in the production of voice, in breathing, and in swallowing. The first was a voluntary action, and it was possible therefore to secure complete rest. Breathing, though absolutely necessary for life, might be made easier, and by tracheotomy the larynx might be relieved from active participation in respiration. Was it advisable to practise tracheotomy for this purpose? He did not share in the opinion that it was a simple or harmless operation, but he considered it was valuable in appropriate cases. With regard to the third function, swallowing, tracheotomy did not afford complete rest, but other means might be taken to give partial rest.

CERVICAL RIBS.

DR. SHEPHERD, of Montreal, read a paper on three specimens of this anatomical peculiarity. Two of them were exhibited to the Section. He also demonstrated his method of strapping "caked" breast.

ECZEMA OF THE NIPPLE AND CANCER OF THE BREAST.

DR. GRANT, of Ottawa, read the notes of a case of this kind, and referred to Sir James Paget's observations, which had proved a connection between this affection and the development of breast cancer.

SECOND DAY.—SEPTEMBER 7TH.

GENERAL SESSION.—After routine business, the

REPORTS OF COMMITTEES

were proceeded with.

DR. FRANCIS J. SHEPHERD, of Montreal, presented the report on *Surgery*. He said that he merely intended to glance at a few of the more important advances made in surgery during the last twelve months in such a manner as to excite discussion. He first referred to the great advances made in the treatment of wounds, and said all surgeons aimed at antisepticism, and that Listerism was only a phase of this. Dr. Shepherd advocated the dry form of dressing wounds, and gave his own method of dressing wounds with iodoform and boracic cotton. The theories as to the cause of inflammation were then touched on, and an account given of Dr. Hamilton's experiments with sponge-grafting. He also alluded to the wonderful success of Dr. MacEwen and Mr. McNamara in osteotomy. He then remarked that no organ was considered sacred by the surgeon, and spoke of the success that has attended the operations of nephrectomy. The treatment of club-foot was alluded to, and the opinion of the members asked as to the advisability of tenotomy. The report concluded with an account of the late improvements in the treatment of the joints, and the question of excising joints for joint disease discussed.

The report elicted a full and animated discussion chiefly on the merits of the spray. Drs. Kingston, of Montreal, Canniff, of Toronto, and Brodie, of Detroit, agreeing with the reader of the report in its general inutility, while Drs. Roddick and Stewart and the President spoke strongly in favor of the full Listerian plan of treatment.

The report on *Therapeutics* was read by DR. TYE, of Chatham, Ontario. It dealt largely with the use of electricity in various affections, and the influence of different kinds of currents. In referring to the large number of new pharmaceutical preparations which had been introduced, he thought the majority of them were more beneficial to the manufacturer than to the patient.

DR. CANNIFF presented an elaborate report of the committee appointed at the Halifax meeting to seek from the government improved legislation in respect to sanitation and vital statistics. It was arranged that the committee should meet and draw up resolutions to be communicated to the Premier.

The meeting then resolved itself into Sections.

MEDICAL SECTION.

A PECULIAR FORM OF FEVER.

DR. HARRISON, of Selkirk, Ont., read a paper descriptive of four unusual cases which presented the following features: The disease came on insidiously, as a remittent fever, with slight tenderness of the bowels, hemorrhage from the nose, pain in the head and back of the neck; changed to intermittent of the quotidian or tertian type; was entirely beyond the influence of quinia, was complicated with strabismus, arching of the neck, painful contraction of the muscles in various parts so as to cause screaming or sudden piercing shrieks; ran a course of from four to fourteen weeks, two of the patients dying, one in the thirteenth the other in the tenth week. No autopsy.

In the discussion which followed, most of the speakers regarded it as a form of cerebro-spinal fever. Drs. Holmes and Tye, of Chatham, referred to similar cases.

DIPHTHERIA.

DR. MULLIN, of Hamilton, Ont., reported two cases of diphtheria—one of diphtheritic croup, in which tracheotomy was followed by a successful result; in the other the membrane appeared on the left tonsil and uvula, and the case ended fatally through septicæmia. He referred to considerations showing that it was a constitutional disease, and that local applications could not remove it.

CHOLERA INFANTUM.

DR. HOLMES, of Chatham, Ont., read a paper on cholera infantum, from which the following conclusions were deduced: 1. Secure for every child proper sanitary conditions. 2. Only resort to artificial feeding when no other course can be adopted. 3. When obliged to feed a child artificially, regulate in the strictest manner the quantity and quality of the food, and persist in none that experience shows to disagree. 4. Maintain the child's temperature at or near the normal, by means of cold sponging. 5. Avoid astringents and opiates. 6. Rely upon laxatives combined with very minute doses of hydrargyrum, frequently repeated. The importance of carrying out the fourth indication was considered very great.

NERVE-STRETCHING IN SCIATICA.

DR. STEWART, of Brucefield, Ontario, read the reports of three cases of sciatica and one of painful stump treated by stretching the sciatic nerve. One case of sciatica was cured and the remaining two greatly relieved. The result in the case of painful stump is also very satisfactory. It was shown by tracings taken during the stretchings that ether has little or no effect, while chloroform has a marked influence in reducing the blood-pressure and rate of the pulse.

TUMOR OF FRONTAL BONE COMPRESSING THE BRAIN.

DR. PREVOST, of Ottawa, reported the case of a man, aged 48, with a tumor projecting from the frontal bone on right side. It had produced exophthalmos, but very little cerebral disturbance. Coma and death ultimately supervened. The tumor had pushed back the dura mater and compressed the frontal lobe to a considerable extent.

DR. CAMERON, of Toronto, exhibited a boy with

PSEUDO-HYPERTROPHIC MUSCULAR PARALYSIS,

and commented upon the general features of the disease. He called special attention to the mode of arising from a kneeling or recumbent posture, which was very well exemplified in his patient.

DR. TEMPLE, of Toronto, mentioned a case of this disease occurring in a man aged 64.

ECHINOCOCCUS OF LIVER, BURSTING INTO LUNG.

DR. BLACK, of Uxbridge, read the notes of the case. The patient, a clergyman, had had an hepatic tumor for over four years. It had been tapped, and the diagnosis of a hydatid cyst made. Latterly septic symptoms supervened, and the spleen became greatly enlarged. Death was caused by bursting of the cyst into the lung, with the discharge of a quantity of pus. A large suppurating hydatid cyst was found in the liver; it had burst through the diaphragm. A huge single cyst existed in the spleen.

PHANTOM PREGNANCY.

DR. H. P. WRIGHT, of Ottawa, reported the case of a middle-aged woman who had borne two children; believed herself to be pregnant; thought she had quickened; and a month after the time she expected to be confined, presented an abdominal tumor and peculiar movements which simulated somewhat those of a child. It was thought at first that there might be an ovarian tumor; but on putting the patient under ether, the true nature of the case became evident.

CHEMICAL COMPOSITION OF THE MILK OF DISTILLERY-FED COWS.

DR. ELLIS, of the School of Practical Science, Toronto, together with Prof. Croft, had examined the milk of sixteen cows—eight of which were fed on distillery refuse and hay, and eight upon other kinds of food. No distinction could be made between the two classes of milk by microscopical observation, and no difference was observed as to keeping qualities. The specific gravity of the milk of the distillery-fed cows averaged 1.029, and in one case fell as low as 1.025. The specific gravity of the milk of the other cows averaged 1.032. In the milk from distillery-fed cows, the total solids averaged 14.64 per cent., and reached in one case 17.96 per cent. In the other milk the average was 12.82 per cent. The excess of solids in the distillery-fed cows is owing to an increased quantity of fat, which averaged 5.50 per cent. in the distillery-fed cows, and reached in one case 8.49 per cent. In the other cases the fat averaged 3.27 per cent.

HALIFAX AS A SUMMER RESORT.

DR. SLAYTER presented a paper showing the advantages of this city as a summer residence. The thermometer shows that in July and August, while the inland and more southern cities are liable to excessive heats, Halifax enjoys cool breezes and a very moderate temperature. The mean average temperature for July and August, during 1879–'80–'81, has been as follows: July, 61.36°, 64.83°, 61.53°; August, 61.53°, 63.03°, 64.41°.

With the exception of rheumatism, the author has observed a decided benefit in the majority of cases sent to the city during these months.

SURGICAL SECTION.

The section met at 3 P.M., DR. GRANT in the chair.

OBSTRUCTION IN THE AIR-PASSAGES.

DR. KINGSTON, of Montreal, related cases illustrating the effects of foreign bodies in the trachea and bronchi. The two most remarkable instances, viz., false tooth in the windpipe for over three months, and a pin in the trachea for eleventh months, have already been referred to in the NEWS of January 21, 1882.

POLYPOID FIBROMA OF THE BLADDER.

DR. FULLER, of Toronto, described the case, which occurred in a child one year and eight months old. Symptoms of stone were present, but nothing was discovered with the sound. Pus occurred in the urine. The child died suddenly from rupture of the bladder. The specimen was shown to the Section.

POLYPUS NASI.

DR. RYERSON, of Toronto, strongly urged the use of glacial acetic acid in these tumors, and preferred the snare to the forceps.

MODERN LITHOTRITY.

DR. WALKER, of Detroit, gave an account of several cases, with a summary of the advantages of this method of operation.

NEW OPERATION FOR HARELIP.

DR. GOODWILLIE, of New York, showed an instrument for keepting the parts together, and advised the operation immediately after birth.

AFFECTIONS OF THE ORBIT AND FRONTAL SINUS.

DR. REEVE, of Toronto, exhibited a series of photographs and specimens illustrating these affections.

EXCISION OF THE KNEE.

DR. FENWICK, of Montreal, showed a series of photographs and specimens, illustrating his last series of excision cases. Of twenty-six excisions of the knee in the Montreal General Hospital, two had died, and in two cases subsequent operation was required. One of the deaths was due directly to heart disease.

ECZEMA TREATED WITH VIOLA TRICOLOR, OR WILD PANSY.

DR. FERGUSSON reported three cases successfully treated by the internal administration of this drug.

DR. J. H. CAMERON showed three cases to the Section. A man whose thigh had been dislocated backwards, and the ilium fractured six months ago. He was still lame, and it was thought that the dislocation had never been reduced. The second case was one of ununited fracture of the femur. The third, a girl aged 20, with an enormous recurrent tumor of the upper jaw.

A paper by DR. MILLS, of Montreal, on

"MISTAKES TO BE AVOIDED IN TREATMENT OF AFFECTIONS OF THE NOSE AND THROAT,"

was taken as read.

THIRD DAY.—SEPTEMBER 8TH.

After routine business, DR. WORTHINGTON, of Clinton, Ontario, read a paper on

CLIMATOLOGY,

dealing chiefly with the subject of malaria in the Ontario peninsula. In the portion of the province bordering upon Lake Erie, the St. Clair district, and the southern end of Lake Huron, malaria still abounds, but the general opinion, obtained in answer to certain queries, is that it has lessened with the increased cultivation and better drainage. The poison seems more active after July, and a long dry period after a wet one renders it particularly prevalent.

It was suggested that, in addition to more thorough drainage and the removal of superfluous dams in the streams, the eucalyptus tree might be planted in certain districts.

In the discussion which followed, DR. MCDONALD, of Hamilton, referred to the general decrease of the disease with the better cultivation of the land. It had occurred every year in Hamilton for the past thirty years.

DR. OSLER referred to the increase of the affection in certain districts which had been hitherto almost free from it, or in which it had not been seen for some years. He believed it was spreading in the New England States and in parts of New York, about Montreal and in the city, where malaria is almost unknown, cases originating in the district had become more frequent.

THE REPORT OF THE SPECIAL COMMITTEE ON SANITATION AND VITAL STATISTICS

was then read by DR. CANNIFF.

The following resolutions were adopted:

1. That for the present the sanitary statistics shall be confined to the cities and larger towns of the Dominion, such to be published monthly, and the deductions therefrom to be circulated in the various centres specified. 2. That for future guidance in sanitary matters a commission should be appointed by the Dominion government, in order, in consultation and co-operation with the various local governments, to arrive at some common basis of action in carrying out such sanitary measures as may be necessary for the guidance of the Dominion government. 3. That such commission shall consist of at least two or more medical men with a legal adviser, whose duty it shall be to examine carefully into the various requirements of such action in sanitary matters.

The Nominating Committee reported the following

OFFICERS FOR THE ENSUING YEAR:

President, DR. MULLEN, of Hamilton.

Vice-Presidents, for Ontario, DR. TYE, of Chatham; for Quebec, DR. GIBSON, of Cowansville; for New Brunswick, DR. ATHERTON, of Frederickton; for Nova Scotia, DR. JENNINGS, of Halifax; for Manitoba, DR. KERR, of Winnipeg.

General Secretary, DR. OSLER, of Montreal.

Treasurer, DR. ROBILLARD, of Montreal.

Local Secretaries, for Ontario, DR. SAUNDERS, of Kingston; for Quebec, DR. BRUNELLE, of Montreal; for New Brunswick, DR. COLEMAN; for Nova Scotia, DR. ALMON, JR.; for Manitoba, DR. WHITEFORD.

The report was adopted and the nominees were duly elected. In the

MUSEUM

DR. SUTHERLAND exhibited a series of twelve specimens illustrating some of the *Modes of Termination of Aneurism.*

DR. OSLER exhibited slides of the *Bacillus of Anthrax*, and the *Bacillus of Tuberculosis.*

DR. GRAHAM exhibited slides of *Koch's Tubercle Bacillus and Ponfick's Actinomycosis.*

After the usual vote of thanks, etc., the meeting adjourned at 12.30.

The members of the Association were entertained by the Toronto profession at a conversazione on Thursday, and on Friday afternoon Dr. Clark gave a luncheon at the Asylum for the Insane.

The next place of meeting is fixed for Kingston, Ontario, on the first Wednesday of September, 1883.

MEDICAL SOCIETY OF VIRGINIA.

Thirteenth Annual Session, held at Fauquier White Sulphur Springs, September 13, 14, and 15, 1882.

(Specially reported for THE MEDICAL NEWS.)

FIRST DAY. AFTERNOON, SEPT. 13.—The Thirteenth Annual Session of the Medical Society of Virginia convened at 3.45 P.M., Wednesday, September 13, 1882, at Fauquier White Sulphur Springs, Va. Because of the illness of the *President*, DR. G. WM. SEMPLE, of Hampton, Va., the *First Vice-President*, DR. W. L. ROBINSON, of Danville, Va., assumed the chair. The *Recording Secretary*, DR. LANDON B. EDWARDS, of Richmond, was in place.

ADDRESS OF WELCOME.

DR. JOHN MCILHANEY, of Warrenton, President of the Fauquier County Medical Society, introduced HON. J. G. BROOKS, of Warrenton, who, on the part of the medical profession and citizens of that section of the State delivered an address, in which a cordial welcome was extended.

A LETTER FROM THE PRESIDENT

(Dr. Semple) was then read, in which he expressed his great disappointment and regret in that he was unable to attend, etc. This letter, on motion, was ordered to be published in the annual volume of *Transactions*, and a vote of sympathy was given by the Society.

Dr. John N. Mackenzie, of Baltimore, Md., was then introduced as a

FRATERNAL DELEGATE

from the Medical and Chirurgical Faculty of Maryland. He was invited to a seat in the body and to participate in the discussions that might come up during the session.

In the absence of all the members of the standing

COMMITTEE ON NOMINATIONS OF APPLICANTS FOR FELLOWSHIP

in the Society, the Chair appointed a committee of five to act in their stead. The committee *pro tem.* was composed of Drs. J. E. Chancellor, of Charlottesville; C. C. Conway, of Rapidan; John R. Wheat, of Richmond; G. Wm. Pollard, of Ayletts, and Bedford Brown, of Alexandria. In a short while this committee reported favorably upon all the applications presented. [During the session forty or more new members were added—one of the largest additions to the membership of the Society during any one year for ten years.]

THE REPORT OF THE RECORDING SECRETARY

showed the receipt of the usual number of exchanges; the issue of two "certificates of fellowship;" the disclaiming of membership of another member; the dropping of two other members from the Register; the registration of two members who report themselves as over 70 years of age, and consequently no longer responsible for dues or assignments; the resignation of five members—three because they had removed from the State, and one who had retired from practice; one doctor should have been reported last year as having resigned; information of the deaths of only two Fellows during the year has been received. Present membership of the Society, including those who joined during this session, about 460.

On motion of Dr. S. K. JACKSON, of Norfolk, a committee of five was ordered to be appointed to express the sense of this Society in regard to the action of the New York Medical Society during its last session which relates to the change of the

CODE OF ETHICS

of the American Medical Association, and which proposed change admits of consultation on the part of regular practitioners with irregulars. The acting President appointed Drs. S. K. Jackson, M. L. James, of Richmond; O. H. Baird, of Waverly; Wm. D. Cooper, of Morrisville; and M. A. Ish, of Neabsco Mills; with instructions to report to-morrow morning. The

REPORT OF THE NECROLOGICAL COMMITTEE

was then presented by letter from the Chairman of the Committee, Dr. John S. Apperson, of Town House. The report was referred, without reading, to the Committee on Publications.

MISCELLANEOUS BUSINESS.

DR. JOSEPH A. WHITE, of Richmond, offered a resolution requiring the attendance of every member at the session at which he may be elected to any office in the gift of the Society. This suggestion awakened a lively discussion, and, after a lengthy debate, it was agreed that a vote should be taken on the subject to-morrow morning, without further remarks.

On motion, a committee of thirteen Fellows was ordered to be appointed at once to nominate officers—other than the President and Assistant Recording Secretary—for the ensuing year.

The Society then adjourned until 8 P.M.

EVENING SESSION.—SEPTEMBER 13TH.

As soon as the meeting was called to order, the acting *President* (DR. ROBINSON) made a few remarks as a substitute for the

PRESIDENT'S ADDRESS.

He greeted the members with a joy born of twelve months' pleasurable anticipation. To those either too careless to investigate, or too ignorant to appreciate, the advantages of sustaining a State Medical Society, he proffered his profound pity. The life of this Society meant sustenance of medical ethics, brotherly love, advancement by study and principle to the standard to which each one is eligible. In regard to other matters, he thought that Richmond was the best place for annual meetings, especially during the week of the usual annual agricultural fair, which occasion always attracts a large number of practitioners to that city, in company with the crowds of other citizens from all sections of this and adjoining States. Forbid banquets by the local societies. He favored the election of a President at the beginning of a session. He urged that papers read before a meeting should be discussed before reference to the Committee on Publication. The "Ex-President's Prize," as offered this year, is undoubtedly a step in the right direction. After a complimentary allusion to the worth of the President of this Society, and an expression of sympathy because of his present ill-health, which alone prevents his attendance, he closed by congratulating the doctors of this section because of the large additions made by them to the membership of this Society.

The reports of the Standing Committees on Progress in the various departments of medical science—the first presented (by the author) was the

REPORT OF THE COMMITTEE ON SURGERY,

of which the following is an abstract:

DRAINAGE IN GUNSHOT WOUNDS.

DR. HUGH M. TAYLOR, of Richmond, Va., limited his report to a consideration of the value of drainage in gunshot wounds. He showed the important part which drainage plays in the treatment of all classes of wounds, by referring to the "open method," to Callen-

der's and Lister's methods; to the cotton-wool dressing of Guerin; to the dry-dressing of Gamgee, and to the sponge dressing, recently made prominent in this country by McClellan. In all of these most prominent methods of treating wounds, now in vogue, drainage is secured and forms the most important adjuvant. In a class of wounds, defined as contused and lacerated, in which sloughing, granulation, and cicatrization invariably occur, and in which there are many conditions to prevent free escape of inflammatory products, we must find free drainage of the greatest importance. The means of securing drainage, which he mentioned are position, incision, dilatation, rubber tubes, glass tubes, decalcified bone, strands of horsehair and silk tents, canula, and such other agents as sponge, absorbent cotton, cotton-wool, etc., which exert capillary attraction.

After dwelling upon the local and constitutional good secured by drainage, the importance of drainage in gunshot wounds of special parts was considered. Few surgeons now question the advantage of treating suppuration in joints by free incision, drainage, and antiseptic washes. Penetrating gunshot wounds of the joints are invariably attended with suppuration, which should also be treated by free incisions, drainage, and antiseptic washes. In gunshot wounds of the extremities, we are taught the value of drainage by the good it effects in compound fractures of the extremities. In pyonephrosis and rupture of the kidney, the indications are clearly in favor of free incision, and the use of drainage-tubes, to evacuate collections of pus or urine; and the success which attends this treatment points clearly to the course to be pursued in gunshot wounds of the kidney. The early removal of blood, serum, pus, and urine is the keynote to the successful treatment of such wounds. In abscesses and cystic disease of the liver, more reliance is placed in aspiration, free incision, and drainage, and in gunshot wounds more reliance should be placed in free incision, drainage, and antiseptic washes. The mortality which follows gunshot wounds of the liver, treated upon the expectant or do-nothing plan, warrants a resort to active operative interference. The indications in favor of drainage in gunshot wounds of the bladder are too plain to admit of discussion. To prevent its consequences, such as pelvic cellulitis and peritonitis, nothing can take the place of drainage. In no gunshot wounds is drainage more important than in those of the head. To prevent compression by the retention of inflammatory products, to avoid blood-poisoning, and to encourage repair of the local injury, drainage is absolutely needed. No sutures and no plaster after penetrating gunshot wounds and after trephining should be used—only some light absorbent dressing.

The cases of penetrating gunshot wounds of the chest which recover, are the cases in which thorough drainage has been practised. No surgeon now thinks of hermetically closing a penetrating wound of the chest. On the contrary, we are instructed to keep the wound open—of course the most dependent, if there are two wounds; and even, if necessary, to make a free counter-dependent opening and introduce a drainage-tube. In empyema, great good is accomplished by aspiration, paracentesis, incisions, drainage-tubes, and flushing out the cavity; and the analogy between the consequences of gunshot wounds and empyema is too striking to be overlooked. In the loose cellular tissue of the mediastinum, suppuration is active and large collections of matter resulting in pyæmia and death is a frequent sequence of gunshot wounds of this region. If nature's efforts are found to be inadequate to the task of securing perfect drainage, they should be aided by incisions; and, if necessary, by the introduction of a drainage-tube. Rosenstein, of Leyden, has recently drained a suppurating pericardium by means of a draining-tube. His case is unique, in that it is the first in which the pericardium has been opened and a drainage-tube introduced with the specific object of removing purulent fluids. The success of this case points clearly to the best treatment for penetrating gunshot wounds of the pericardium which are not immediately fatal. The value of drainage, in penetrating gunshot wounds of the belly, is attracting more attention than any subject connected with the treatment of gunshot wounds. Attention was first called to this subject by Dr. Hunter McGuire, of Richmond, Va., in 1873. Afterwards by Dr. Marion Sims, of New York, and again by Dr. McGuire in 1881, during the session of the American Medical Association. Over 92 per cent. of the patients operated upon for ovariotomy recover. Over 90 per cent. of gunshot wounds of the peritoneum die. In the former, and not in the latter, the importance of thorough drainage has been appreciated. Operative interference to repair the injury done and to secure perfect drainage is of the last importance in penetrating gunshot wounds of the belly.

The conclusions arrived at by the writer, are:

1. That union by primary adhesion is exceedingly exceptional in gunshot wounds.
2. That suppuration, granulation, and cicatrization, are invariably combined in the process of repair.
3. That extensive accumulations and burrowing of pus in a deep, narrow bullet track, are to be expected and feared.
4. That the deep, narrow, angular, and frequently-obliterated track does not afford perfect drainage.
5. That in such cases the principles of surgery applicable to other deep-seated suppurations must be applied.
6. That position, incision, dilatation, drainage-tubes, and the other means mentioned, are of great importance in treating the consequences of gunshot wounds.
7. That, by nature's efforts, analogy, and reason, we are taught to think that their more frequent use will lead to better results in this class of injuries.
8. That the danger incident to their use is far outweighed by the benefit which accrues.

On motion, this paper was referred to the Committee on Publications, with authority to publish.

DISCUSSION.

DR. R. I. HICK'S, of Casanova, remarked, in regard to gunshot wounds of the chest, that if Dr. Taylor meant that drainage-tubes should be introduced to anticipate any collections of noxious matters, he could not endorse the suggestion, because he had seen too many cases of gunshot wounds of the chest recover without any bad symptoms, upon the expectant plan. But he supposed that all surgeons of the present day agree that collections of pus or other offending matters should be evacuated, if practicable, wherever found. This principle is as old as the fathers of medicine.

He had also seen several wounds of the abdomen recover in like manner; and, even in these cases, interference should be withheld until it was ascertained that offending matters were either retained, or were in the act of formation. If formed, he entirely agreed as to the importance of early removal or evacuation—because under the non-interference plan in such cases, death almost inevitably results.

DR. J. E. CHANCELLOR, of Charlottesville, spoke of two cases met with in his practice bearing upon the point at issue. The first case he alluded to was that of a Confederate soldier, of high position, who, during one of the battles of the Confederate War, was wounded between the sixth and seventh ribs of the right side. The Minie-ball came out under the lower angle of the scapula of the same side of the body. There were ex-

pectoration of blood and the other usual signs of complete perforation of the lungs, the pleura and the chest walls. In a few days, pus formed; some was expectorated and some passed out through the wounds of entrance and exit; there was also some pleuritic effusion. This condition, of course, was attended by cough and dyspnœa. The soldier was brought to the hospital at the University of Virginia, of which Dr. James L. Cabell, Professor of Surgery in that institution, had charge. An opening was made with the knife along the lower border of the sixth rib, and eight or ten fluid ounces of pus were drawn off. After this operation, the patient fell into the hands of the reporter [Dr. Chancellor]. Carbolic washes of the wound—externally and by injections—were resorted to, and drainage by means of a gum catheter was adopted as the general line of treatment, with such supporting regimen as seemed required from time to time. In addition, treatment by position was followed out, so as to let either one or the other of the external wounds be dependent, so as to facilitate drainage. This plan of treatment was kept up for some weeks or two months, by which time restoration to health was rapidly advancing. The body was then noticed to be much "drawn" to the right side. Within a few months, however, the lungs were invaded by deposits, which appeared to be tuberculous, and the patient died. Still, the lesson learned from this case was "the value of drainage of gunshot wounds;" for the patient, after recovery from the wounds themselves, was able to ride about or go where he pleased; and while he did complain occasionally of "stitching pains" at the points of both wounds for some time afterwards, as well as "heavy pains" along the track of the wound through the lung, it was several months later that the tubercular trouble began. The doctor *knew* nothing about the history of consumption in the family of the patient.

The other case bearing on this subject, was that of a married lady, of some thirty years of age from Texas, who, ten years ago, while dancing one of the round dances, as she professed, had her right side too much compressed. She was not "well" at the time of her dancing; but being fond of the amusement, she danced immoderately, whenever opportunity offered. But soon after the special dance referred to, she had hepatitis, followed by an abscess of the liver, which "pointed" on the right side between the ninth and tenth ribs. An incision was made in the most dependent part, so as to evacuate the pus. After this, "a drainage position" was directed. Then a drainage-tube was inserted, but it did not act well; it became clogged too frequently to accomplish the ends in view. In studying how to promote the discharge of purulent matter from the cavity of the abscess, he determined to resort to properly applied compression. He adopted a specially prepared spring truss—the drainage-tube being frequently taken out for cleansing purposes, and re-inserted. This treatment was kept up for a month or more, under Dr. Chancellor's care, when she was sent to the Rockbridge Alum Springs, Va., where the resident physician, Dr. Saml. B. Morrison, followed out the same general line of treatment as had been pursued, chiefly, draining locally, and tonics internally. She recovered her health perfectly, so far as known, to this day.

Dr. Samuel C. Gleaves, of Wytheville, addressing Dr. Chancellor in regard to the last mentioned case.—"Was the drainage-plan of treatment the cause of the cure?"

Dr. Chancellor.—"Yes, I believe it was."

Dr. Gleaves.—"If the pointing abscess had simply been lanced sufficiently at the most dependent point, and the proper position of the patient been ordered and followed out by the nurse, would not sufficient drainage have been kept up?"

Dr. Chancellor.—"Yes; but with the carelessness of nurse, or disobedience of patient, it is impracticable to depend upon the exact following out of such instructions. Of course, you must be careful, under such circumstances, to keep the incision wound open."

Dr. Gleaves.—"What, then, is the use of the additional irritation caused by the insertion of a drainage-tube?"

Dr. Chancellor.—"I do not admit that the proper introduction of a properly devised drainage-tube causes improper irritation. It frequently happens that the very irritation caused by the gentle introduction of a draining-tube into a deep abscess of any part of the body creates exactly that kind of 'irritation' which is most desirable for repair of an indolent ulcer or abscess." In furtherance of these views, he mentioned the case of a man who was shot laterally in his knee-joint—the ball going through and through. Such cases generally end fatally, unless amputation of the thigh is undertaken; and even then many failures of success occur. In the case briefly reported by him, the drainage-tube plan of treatment was adopted, and the patient thoroughly recovered, with the exception that he left with an anchylosed knee. "Was that not better than having either an artificial limb, or an amputated thigh?"

Dr. Gleaves then referred to a case, some time ago under his charge, of abscess of the liver. After opening it, he could not get it to heal while pus was flowing from it, or while it was secreting.

A Member.—"Of course not. Ought to have inserted drainage-tube, and thus have caused sufficient inflammatory irritation. Dr. Gleaves himself said, '*ubi fluxus, ibi irritatio.*' The flow ought to continue when there is no irritation, and for a stronger reason ought to continue while there is irritation of the abscess."

Dr. Taylor, the author of the paper under discussion, referred to the autopsy of a case which had induced him to believe in drainage wherever there was deep-seated abscess, or even wherever a superficial one, of large size, with its external opening was constantly clogged up. He believed in drainage, especially in all major operations. If position or the patency of the opening would not permit proper drainage of the foul matter—whatever that matter might be—then establish a means artificially for free drainage. If the chimneys of a closed house do not carry off the poisonous effluvia of a house, then let the doors and windows be opened. So in regard to abscesses or poisonous effusions in the abdominal cavity. If the opening by the wound of entrance or exit is not sufficient to admit of drainage—the escape, indeed, of the poisonous secretion, whatever may be its character—then make an artificial opening intelligently, and keep in this wound a perfectly secure drainage-tube—whatever may be the kind or shape of the drainage-tube required for the special case under charge.

Under call for volunteer papers or reports, Dr. Hugh T. Nelson, of Charlottesville, reported the following case of

URETHRAL STRICTURE OF TWENTY YEAR'S STANDING, IN WHICH PERFECT CURE OF THE LESION WAS AFFORDED BY THE VIS MEDICATRIX NATURÆ ALONE.

The case was one of unusual interest.

Mr. B., a country farmer, aged 63. He has had attacks of gonorrhœa in his younger days, and hence became the subject of retention of urine. He applied for treatment on May 4, 1882. He had had stricture of the urethra for twenty years, and had been under physicians of prominence previously, but no operation had ever been performed. On the day named, however, after continued and violent efforts at micturition, the

bladder had been emptied before the doctor saw him; he had suffered great pain for several hours, and had evidently only been relieved by the relaxation following upon intense vesical distention. A No. 5 bougie was introduced, passing, on its way to the bladder, through the cartilaginous strictures, one embracing nearly an inch of the urethral extent, the penis being very large, and seemingly œdematous. Mr. B., with considerable difficulty, managed to keep the bladder comfortably empty until the 9th, when complete occlusion of the urethera forced him to seek professional assistance. The No. 5 bougie was passed, but with great difficulty, from the contracted state of the stricture; and after the beak of the instrument had entered the bladder, the grasp of the stricture was so great as to prevent further introduction. The bougie was withdrawn with great difficuity, and a smaller catheter passed, which cut the urethra a little, but emptied the bladder perfectly and with great relief.

The patient now called attention to an enlargement in the corpus spongiosum; an examination of this showed at about the middle of this portion of the urethra, and consequently covered by the scrotal folds, something that appeared to be a fibrid growth, about the size of a pigeon-egg, and corresponding to the most undilatable of the strictures. He was seen daily for several days, and the bougie was used regularly with apparent improvement in the condition of the stricture. On the 13th he was so much relieved that he declined further treatment, and determined to return home on the 15th. About noon on the 14th, however, the doctor was summoned in haste, and found the old man suffering great pain, and straining violently in ineffectual efforts to empty the bladder. The scrotum was found enormously distended; its more superficial tissues were very much thickened and hardened. No fluctuation was detected, the absence of which, together with an entirely normal state of the *perineum*, made it highly probable that the condition was due to erysipelas of the superficial and deep tissues, though the possibility of urinary infiltration was not lost sight of. The bougie was passed with relief, and the ordinary treatment appropriate to an erysipelatous condition of the parts was instituted. On the morning of the 15th a large patch of gangrene occupied about three-fourths of the now enormously distended scrotum, from which the cuticle was entirely gone, and a fetid, sanious ooze escaped. Early on the 16th, there was no further extension of the gangrene, and a line of demarcation was visible; but the œdema was extending upon the pubis, the perineum still retaining its natural condition. On the evening of this day, Prof. J. S. Davis, of the University of Virginia, saw the patient in consultation, and gave, as his opinion, that the case was one of urinary infiltration, consequent upon rupture of the spongy urethra, and the diagnosis was immediately verified by the modified operation for *anterior perineal section*, which was performed by Dr. R. W. Nelson, of Charlottesville, Va. Over one pint of urine, and several ounces of pus escaped from the incision, and for several days urine dribbled from the wound, small quantities being also discharged from the meatus several times each day. Except on the two occasions mentioned there had never been perfect retention, and the urine, though passed in small quantities, had always seemed to reach a fair twenty-four hour average. A stimulant and tonic treatment was kept up; the large gangrenous mass sloughed away, exposing both testicles, which were covered by the tunica vaginalis alone; the amount of urine passed through the meatus continued to increase, accompanied by a corresponding diminution in the quantity which passed from the large wound. The granulations were most satisfactory, and by the first of July both testicles were completely enveloped by a good healthy scrotum, accompanied, it is true, by retraction of the penile integument, which renders perfect erection impossible. The strictures are entirely relieved, and the urine is passed in a fuller stream than ever before, and this, although neither catheter or bougie was ever introduced into the urethra after the operation.

DR. NELSON, in connection with this subject, exhibited a

CATHETER BOUGIE,

as made and used by Dr. R. W. Nelson, of Charlottesville, Va., in cases of urethral relaxation and prostatic trouble, in which even the eye of a soft rubber catheter occasioned sometimes troublesome hemorrhage. The instrument is always introduced in its bougie form, then opened to empty the bladder, and *never* to be closed until *after* withdrawal.

After the reading of Dr. Nelson's paper, DR. GEO. B. JENNINGS, of Ruckersville, was requested to report, in full,

AN UNUSUAL CASE OF SLOUGHING OF THE PENIS AND SCROTUM,

and promised, by request of several members, to report in full, in writing to the *Transactions* of the Society for this session. The chief point of interest in the case was that of ulceration of the under portion of the penis and the major part or the scrotum, including the testicles, leaving several urethral sinuses or openings between the bladder and the mouth of the urethra.

After this report the meeting adjourned until 10 A.M., Thursday.

(*To be continued.*)

CORRESPONDENCE.

HYPODERMIC INJECTION OF WATER FOR THE RELIEF OF PAIN.

To the Editor of THE MEDICAL NEWS.

SIR: The case reported by Dr. S. J. Radcliffe in THE MEDICAL NEWS of September 2d, reminds one of a somewhat similar experience. In the year 1873 there came under my care, sent to me by a neighboring physician, a woman, between 45 and 50 years of age, widow, with sciatica. She said that she had been afflicted a long time, and had been treated by a number of physicians, all of whom had administered either opium or morphia, and that the one who had sent her to me, Dr. W., was the first one to use the hypodermic syringe. The woman seemed to suffer, and although she was a "spotted specimen" from previous punctures, I followed the same treatment, and "smote" her hip and thigh with the hypodermic, injecting the morphia solution daily, sometimes twice. For many days I continued this treatment, always with relief temporarily. Finally, it ocurred to me to try a little deception, and give a hypodermic injection of water. I expected my patient would return that day for another dose, but she did not. The next morning I again used the distilled water, as it gave the desired relief, and continued these injections for about two weeks. Then I told "me leddy" that she was cured; that she did not need any more morphia; that I had been injecting water. Well, she just swore and tore around, and let fly at me from her sainted lips some choice appellations, which would show up too handsomely on paper, so I forbear. To persuade her to leave the office, I informed her that I would be under the necessity of calling in an officer. This had the desired effect. She went muttering something that sounded like "report you to the health officer" (I was district physician to

the Ninth Ward of this city then); "put you in the papers," etc. It was not long until I happened to see her in another physician's office; I told the gentleman, Dr. W. J., what I had done, and after that he tried the hypodermic water treatment for a few days until he was satisfied that the woman did not need the morphia, and discharged her, and, I believe, informing her, as I had done, of the watering process.

Respectfully,
R. D. MUSSEY.

N. W. CORNER FOURTH AND ELM STS., CINCINNATI,
September 14. 1882.

A SPLINT TO REPLACE THE STROMEYER.

To the Editor of THE MEDICAL NEWS.

SIR: The splint which I described in your issue of August 26 was made for me by Mr. Gemrig, in September, 1881, and, therefore, really ante-dates Dr. DeYoung's (described in the NEWS of September 16) by six months. At the same time, I have little doubt that others have had virtually the same splint made long before either of us. So far as I am aware, however, no such splint has been described before, and certainly none is in common use. The chief defect of the Stromeyer splint—its limited flexion—and also the ill-effects of the pressure at the joint, are both remedied by either form of splint.

Very truly yours,
W. W. KEEN, M.D.

PHILADELPHIA, September 18, 1882.

NEWS ITEMS.

TREATMENT OF YELLOW FEVER.—From the Secretary of the National Board of Health, we have received the following for publication: The United States Consul at Maricaibo (Mr. Plumacher), in a recent communication to the State Department, enclosed the translation of an extract from a Venezuelan journal, *The Opinion Nacional*, of July 31, 1882, concerning the treatment of yellow fever, by Dr. Serafia Sabucedo Varela, of Havana, Cuba. The extract was referred by Mr. Hunter, Second Assistant Secretary of State, to the National Board of Health, and was by it directed to be published. The translation is as follows:

"REMEDY FOR YELLOW FEVER.—The Havana newspapers which we have received to-day contain the following remarks, accompanied with high recommendations. Yellow Fever. The writer of these lines, doctor of medicine, certifies that since the 24th of June, of the present year, he has used as a remedy against yellow fever, doses of salicylate of sodium and carbolate of sodium, administered in spoonfuls, which remedies have been attended with the happiest results in 15 cases of this deadly disease.

"Dr. Sabucedo does not warrant in any way that these remedies will be always successful, since a number of observations are necessary to determine the truth of such a transcendental fact for afflicted humanity, and he also rejects energetically every idea of charlatanism or speculation, desiring only to call the attention of his worthy and instructed colleagues, in order that the field of observation may be extended as much as possible, for the purpose of demonstrating by facts, whether or not these remedies offer a veritable specific against such a formidable enemy. The curative system is as follows:

"Before the lapse of 48 hours from the first symptoms, administer rapidly an emetic and whatever purgative.

"After these have operated, give, without loss of time, the following formulas:

"No. 1.—Salicylate of sodium, . 4 grammes.
Water, ... 100 "
"No. 2.—Carbolate of sodium, . 1 gramme.
Water, ... 11 grammes.

"Commence to use these formulas as soon as the purge operates, beginning with a spoonful of No. 1, then wrap the patient, and in one hour administer a spoonful of No. 2, thus administering every hour until both formulas are exhausted.

"The alarming phase will then have disappeared; the patient perspires and on the second day the fever descends to a less grade, and there is no longer danger, the patient having the assurance that he is saved.

"With this treatment it is very rare to meet with vomit, with albuminuria, or retention of urine, the symptoms limiting themselves to bleeding at the gums and nose, the blood being bright and healthy. The urine is clear and slightly yellow, and occasionally green, without precipitating, after the fourth day.

"It can be said that serious yellow fever transforms itself, by this simple treatment, into a mild or abortive yellow fever, and no patient has as yet died among those treated on this plan.

"(Signed) DR. SERAFIA SABUCEDO VARELA."

"HAVANA, July 18, 1882."

YELLOW FEVER.—The yellow fever at Pensacola has spread rapidly during the past week, the total number of cases since the presence of the disease was acknowledged amounting to 217 on the 18th inst.—29 deaths having occurred in the same time. Up to September 12th, there were 114 cases and 19 deaths.

Dates.	Cases.	Deaths.
September 13th, . . .	19	3
" 14th, . . .	11	2
" 15th, . . .	19	2
" 16th and 17th, .	27	2
" 18th, . . .	27	1
Total, ...	217	29

Not long since, the reports from the city indicated that the shipping was free from the disease, but on the 17th an Italian bark, the "Galileo," from Pensacola, was telegraphed as passing between the capes bound for Hampton Roads, with four persons on board dead from yellow fever. The vessel was taken to the quarantine barge, near Craney's Point, at the mouth of the Elizabeth River.

The estimates of the City Board of Health, forwarded for the approval of the National Board, called for an expenditure of two hundred dollars a day, of which fifty dollars daily were required for disinfectants. The National Board of Health allowed one hundred and fifty dollars daily for nurses and inspectors, and ordered disinfectants remaining on hand from the epidemic of 1879 to be forwarded from Memphis. There is great difficulty experienced in obtaining nurses for the sick. The disease has occurred mostly among those who are unable to pay the charge of five dollars a day for nursing, and this item constitutes a heavy draft on the funds of the health authorities. No effort has been made by the local board to establish hospitals, although the bills for nursing would thereby be considerably reduced. It is certain now that Pensacola will have to suffer until the thermometer falls, or until, as in Brownsville, all the susceptible persons have suffered.

The Spanish bark "Saleta," in which the Pensacola fever is said by some to have originated, and which was towed to sea on August 10th, has been heard from at Havana. Dr. D. M. Burgess visited her there and found that the two men who were sick at the time the vessel was sent from Pensacola, died on the voyage,

and that none of the other persons on board sickened with the disease; but inasmuch as some of them had certainly suffered from fever in former years, while the history of the others rendered their susceptibility doubtful, their escape cannot be used as an argument that the disease on board was not yellow fever.

In Texas the disease has not spread beyond the line guarded by the Marine-Hospital Service, but it has extended up the river from Matamoras, on the Mexican side, to several towns, as Reynose and Mier. Guards have been placed opposite these points to prevent its introduction into the Texan settlements.

On September 5th, a case of fever occurred in New Orleans which gave rise to some anxiety, as it appeared in the locality which is acknowledged as having been recently infected. It was ultimately pronounced by the State Board as one of bilious remittent.

While Louisiana is quarantining against Pensacola and Brownsville, her neighbors manifest their fear of infection from New Orleans by demanding the inspection certificate of the National Board of Health on all freights coming from that city by river or rail. On September 11, Governor Roberts, of Texas, approved "regulations" drawn up by Dr. Swearingen, Health Officer of the State, for the transfer and disinfection of freight passing through the disinfecting warehouse near the Sabine River, during the existence of quarantine against New Orleans. On the 6th instant the State Board of Mississippi required the extension of the inspection service to passengers as well as freight.

As there was no yellow fever in the city at the time, the Louisiana Board and New Orleans papers charged the National and Mississippi Boards with conspiring to cast odium on the city, injure its trade, and annoy the travelling public. This drew from the latter Board at its meeting, on the 12th inst., a resolution, in which it declared and proclaimed its full and entire responsibility for any and all steps taken heretofore in establishing the system of inspection now in force against New Orleans. It is to be hoped that the season will pass without giving the Mississippi Board occasion to congratulate itself on the wisdom of a precaution which places the guards in position to be ready for an emergency which may occur at any moment.

The following summary of the progress of the yellow fever is reported by the Surgeon-General of the Marine-Hospital Service, for the week ending September 16, 1882, at

BROWNSVILLE, TEXAS.

Dates.	Cases.	Deaths.
September 10th,	58	0
" 11th,	47	1
" 12th,	31	3
" 13th,	32	0
" 14th,	24	0
" 15th,	18	2
" 16th,	22	0
Total,	232	6
Previously reported,	1,539	88
Total, to include Sept. 16th,	1,771	94

PENSACOLA, FLORIDA.

Dates.	Cases.	Deaths.
August 28th (first report),	9	1
" 29th,	2	1
" 30th,	3	0
" 31st,	4	0
September 1st,	1	2
" 2d,	0	1
" 3d,	0	0
" 4th,	1	2
September 5th,	1	0
" 6th,	0	1
" 7th,	13	0
" 8th,	12	2
" 9th,	16	2
" 10th,	10	2
" 11th,	20	3
" 12th,	22	2
" 13th,	19	3
" 14th,	11	3
" 15th,	19	2
Total during epidemic,	163	27

CHOLERA IN JAPAN.—Recent advices from Japan give the number of cases of cholera in Yokohama, from August 10th to 21st, as 608, with 357 deaths. The total figures from the beginning of the epidemic amount to 2,801 cases and 1,719 deaths, a mortality of over 61 per cent. The foreign residents continue free from the disease. Other parts of the Empire are becoming infected. Osaka, one of the largest cities, has been declared an infected port.

CHOLERA IN THE PHILIPPINES.—Official dispatches have been received at Madrid from the Philippine Islands, confirming the increase of cholera, and causing great alarm. Hitherto only natives had been attacked, but the deaths of several Europeans are now reported. Four thousand natives have died from cholera in a single province. The epidemic is, however, believed to be now decreasing. The government has adopted most stringent measures regarding vessels arriving at Spanish ports from the East.—*British Med. Journal*, September 2, 1882.

TUBERCLES AS MANIFESTED IN THE LARYNX.—At the conversational meeting of the Pathological Society of Philadelphia, to be held in the Hall of the College of Physicians, on Thursday evening next, DR. J. SOLIS COHEN will read a paper entitled "Tubercles as Manifested in the Larynx." Dr. Morell Mackenzie, of London, we understand, is expected to take part in the discussion. The profession is invited to be present.

RESIGNATION OF PROF. PIRRIE, OF THE UNIVERSITY OF ABERDEEN.—Dr. Pirrie, the venerable Professor of Surgery at Aberdeen, has resigned his chair on the ground of advanced years and declining health. At the meeting of the University Court held last week permission was given, and, after the members had individually expressed their high sense of the distinguished services of Dr. Pirrie, it was agreed to recommend that an increase of the usual retiring allowance should be granted. Dr. Pirrie has served the University in the capacity of Professor for the long period of fifty-two years; for nine years as Lecturer on Anatomy and Physiology, and since then in the now vacated chair.—*Lancet*, September 2, 1882.

THE DUKE OF ALBANY.—According to the *Lancet*, his Royal Highness suffers from constitutional weakness, with liability to hemorrhage—hæmatophilia.

DARWIN'S STATUE.—Twelve thousand five hundred dollars have been already collected for the marble statue of Darwin, to be erected in the British Museum.

PERSONAL.—The American Rifle Team, which participated in the late international match at Creedmoor, had for one of its members the well-known pathologist, Dr. E. O. Shakespeare, of Philadelphia.

DR. GEORGE CAPRON, eighty years old, and the oldest practising physician in Providence, received a shock of apoplexy Sunday, and is reported to be dying.

TO DISGUISE THE TASTE OF QUINIA.—MR. J. K. LILLY proposes the syrup of yerba santa for the above purpose. Very little seems to be known about this substance. The purest state in which the writer has as yet been able to obtain it is in the form of an amber, mucilaginous mass, soluble in water and alcohol, insoluble in ether, benzine, and chloroform, precipitated by strong acids, and re-dissolved by alkalies. It may be prepared by mixing a fluid extract, made with a menstruum of not less than 75.9° alcohol, with an excess of water, boiling to drive off alcohol, shaking with finely powdered pumice, allowed to stand, then filtering and the filtrate evaporated to the consistency of an extract. The following formula is proposed for the preparation of a syrup, which has proved to be very satisfactory:

Fluid Extract Yerba Santa, . .	4 parts.
Water, ...	8 "
Powdered Pumice, ...	1 "
Granulated Sugar, ...	14 "

Mix the fluid extract with the water, evaporate to seven parts, shake with pumice, allow to stand, decant, add sufficient water to preserve measure, then with heat dissolve the sugar. The addition of fluid extract of licorice in the proportion of half a drachm to the ounce of syrup, or of aromatics, adds somewhat to the elegance of the preparation. When quinia or other bitter substances are suspended in this syrup their taste is completely masked. It is far superior to the licorice preparations used for the same purpose, is pleasant and agreeable, and is easily prepared.—*Chicago Med. Rev.*, August 15, 1882.

BELL-RINGING A NUISANCE.—The Supreme Judicial Court for Plymouth County, Massachusetts, has just enjoined Francis A. Sawyer and others, from ringing a bell upon their woollen mill in Plymouth. The case came to the full court on appeal by the defendants from a decree entered by a single justice, enjoining them from ringing the bell earlier than half-past six o'clock in the morning. The plaintiffs for many years have owned and occupied dwelling-houses situated, one about 1000 feet and the other about 300 feet from the defendant's woollen mill. The defendants commenced to run their mill, which had been previously occupied by other parties, in December, 1879, and about January 1, 1880, placed the bell upon the mill and caused it to be rung every working day at five and twice between six and a half o'clock in the morning and at other times during the day, except that the five o'clock bell was discontinued during the summer. The plaintiffs alleged that the bell as rung was a private nuisance to them and injured their property and disturbed the quiet and comfort of their homes; that it was not necessary for any purpose of trade or manufacture; that it was unnecessarily large and rung at unreasonable hours and unreasonably long. The defendants in their answer denied that the bell was a nuisance to the plaintiffs, and alleged that it was used by the defendants to summon the operatives in their mill to work; that it was necessary and customary to adopt some method to summon operatives in such a manufactory to their work; that the bell was of suitable size, rung at suitable hours, and in a proper manner for that purpose. Two questions were presented for the consideration of the court: First, whether the plaintiffs proved that the ringing of the bell was a nuisance to them; and second, whether it was such a nuisance that the court would interfere to restrain it by injunction. The court has now decided that the evidence seemed fully to sustain the finding of the judge who heard the case—that the ringing of the bell was a nuisance to the plaintiffs, and further, that the plaintiffs were entitled to an injunction. The decree of the single justice was accordingly affirmed.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending September 9, 1882, indicate that dysentery and typho-malarial fever have considerably increased, that erysipelas and influenza have increased, and that diarrhœa and tonsillitis have decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending September 9, and since, at 17 places, scarlet fever at 11 places, measles at 4 places, and smallpox at 3 places, as follows: in Berlin Township, Ionia Co., September 8; at Grand Rapids (last case discharged September 12); at Ionia, September 18.

For the week ending September 9, the sanitary inspector reports 3 cases of whooping-cough among immigrants arriving at Detroit.

OBITUARY.—A cable dispatch from London announces the death, on September 15th, of SIR JAMES ALDERSON, the eminent physician. He was the son of Dr. John Alderson, of Hull, and was born there in 1800. He graduated at Cambridge as sixth wrangler in 1822, and became a fellow of Pembroke College. After a course of studies in Oxford he took his degree in 1829 and achieved success as a practitioner in London. He published a treatise on *Diseases of the Stomach* in 1847, and delivered the Lumleian course of medical lectures in 1853-4. Soon after he was made fellow of the Royal Society, and was president of the Royal College of Physicians four successive years, from 1867 to 1870. He was appointed physician extraordinary to the royal household, and was knighted in 1869. The degree of doctor of civil law was conferred on him by the University of Oxford in 1870.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 11 TO SEPTEMBER 18, 1882.

BACHE, DALLAS, *Surgeon.*—Informed by Adjutant-General of acceptance of his certificate of disability of August 31, 1882, on sick leave, from September 1 to 30, 1882.

MADDOX, T. J. C., *Assistant Surgeon.*—To proceed from Fort Clark, Texas, *via* San Antonio and Laredo, to Fort Brown, Texas, for duty.—*S. O. 96, Department of Texas, September 8, 1882.*

WRIGHT, J. P., *Surgeon.*—Granted leave of absence for one month, with permission to apply for an extension of one month, on surgeon's certificate of disability.—*S. O. 181, Department of Missouri, September 8, 1882.*

HORTON, S. M., *Major and Surgeon.*—Granted one month's leave on surgeon's certificate of disability.—*S. O. 96, Department of the Platte, September 11, 1882.*

WRIGHT, J. P., *Surgeon.*—Granted one month's leave of absence, with permission to apply for extension of one month, on surgeon's certificate of disability.—*S. O. 181, Department of the Missouri, September 8, 1882.*

SMITH, ANDREW K., *Major and Surgeon.*—Leave of absence on surgeon's certificate of disability granted in special orders No. 131, August 22, 1882, Department of Arizona, extended two months, on surgeon's certificate of disability.—*S. O. 214, A. G. O., September 14, 1882.*

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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ORIGINAL LECTURES.

THE BACILLUS TUBERCULOSIS.

A Lecture delivered, by invitation, on September 18, before the College of Physicians of Philadelphia.

BY JAMES T. WHITTAKER, M.D.,

PROFESSOR OF THE THEORY AND PRACTICE OF MEDICINE IN THE MEDICAL COLLEGE OF OHIO, CINCINNATI.

(Reported for THE MEDICAL NEWS.)

OUR definite knowledge regarding tuberculosis dates from the day when experiments were first made to prove the specificness of the disease. We all remember well what a kind of thrill went round the medical world when Villemin, in 1865, first announced that he could inoculate the disease by means of tuberculous virus. We recall, too, the numbers of experiments which were performed at once with conclusions, some in confirmation, some in refutation, of his views. Chief among the opponents of them at this time was Cohnheim, who, with many others, stoutly maintained that he could produce the disease by the inoculation of other kinds of matter, even with wholly innocuous and inorganic matters, like elder pith, India rubber, etc.; in short, with anything that would produce irritation and caseation, which latter process came to be looked upon as a *sine quâ non*. Hereupon followed the doctrine of caseous pneumonia, a process secondary to catarrhal or croupous pneumonia in a vulnerable subject, and the sequence was catarrhal pneumonia, caseous pneumonia, phthisis. But the pathologists soon saw that neither catarrhal nor croupous pneumonia was wont to result in caseous pneumonia, and that, while phthisis was a disease so common as to carry off one-third of the productive population, neither of the so-considered causative affections occurred in sufficient frequency. Buhl then described a desquamative pneumonia, a form different from any other, whose business it was, as it were, to result in caseous degeneration. The pathology of tuberculosis now became involved in the hazy mists of clinical speculation.

The next direct observations were made in the experiments of Tappeiner, who saw that dogs, which naturally enjoy great immunity, became tuberculous when forced to breathe enclosed in boxes containing atomized tuberculous matter. These simple and striking experiments were variously repeated again with contradictory results. But the idea of specificness was thus launched again, and very soon thereafter when the oculists began to produce the disease by the inoculation of tuberculous virus in an organ where the whole process of development could be seen by reason of the translucency of its structure, the bulk of evidence was in favor of regarding tuberculosis as a specific disease. Cohnheim and Salomonsen now published the results of their inoculation experiments upon various animals, arriving at the conclusion that tuberculosis could be produced in no other way than by the introduction of tuberculous matter. Not the presence of giant-cells, the formula ran, not the process of caseation characteristic of disease, but solely the capability of inoculation. Thus there was gradually evolved the fact of the specificness of the disease, so that by the beginning of this year the doctrine had deepened into a general conviction.

Then so soon as this prime factor was acknowledged, the idea was naturally awakened, or rather reawakened, of the presence of a *contagium vivum*. Klebs, who is always first in this field, in point of time at least, described the actively-moving *monos tubercolosium* (bacterium). Schüller and Toussaint followed with micrococci, and Aufrecht followed them with two forms, one for scrofula, one for phthisis, one a micrococcus and one a bacillus. There was no satisfaction in these discoveries, which rested simply upon microscopic appearances, and they soon took their place silently among the list of the lost. By the beginning of this year Cohnheim was still able to say, "The principle of the infection in tubercular affections still remains a problem unsolved."

How Koch solved this problem is a matter of history already in the short time which has elapsed between April 10th, the date of his first publication, and the present day. He had already made fame in an obscure country town with his researches upon surgical infection, erysipelas, and milzbrand. But his reputation was chiefly confined to his co-workers, whose attention soon became fixed upon him on account of the accuracy of his observations and the precision of his statements. The recurrence of a particular form of bacillus under the same conditions of investigations concerning tuberculosis soon convinced him that he had something more to deal with than a mere accident or coincidence. The same means were at hand which had been adopted with such success in isolating the bacilli of milzbrand, and the principle of the solid culture soil was modified to secure the development of the bacillus tuberculosis. In this way he soon arrived at the conclusion that he had to deal with a special form of parasite, and the question only was as to its exact relationship to the disease. But first let us speak of the anatomy or morphology of the new discovery.

The bacillus tuberculosis is rod-shaped, hence its name, varies in length from $\frac{1}{1200}$ to $\frac{1}{3600}$ inch, is *absolutely motionless*, produces spores, 2-4, in the body, and is blunt at both ends. It is present in greatest abundance where the disease is in most rapid progress, and may be absent where the disease has ceased to spread. It is found in the interior of the so-called giant-cells, which are in reality but capsules for it, like the capsules of trichina.

But no one, certainly not Koch, would claim to differentiate a bacillus by its gross physical appearance. Milzbrand is easily distinguished from tuberculosis by the fact that its bacilli are pointed at each end, while the bacillus tuberculosis is rounded or blunt; but such differences are of value only when both bacilli are present for comparison. The spirochates of recurrens are distinguished at a glance, because they are spiral and not straight—because they are, in fact, not bacilli (rods) at all. The bacilli of mouse septicæmia are distinguished at a glance because of their extreme minuteness, and the bacilli of rabbit septicæmia are distinguished, because they are more like bacteria than bacilli, that is, they are more elliptic than linear. But these distinctions are of value only in the mycological laboratory, where they all occur with equal frequency, and would not interest us as clinical practitioners. So far as concerns morphology alone, the various bacilli are at the first glance very much alike, often so much alike as to be indistinguishable; but in this respect they are not unlike many other microscopic structures, say the spermatozoids,

which are apparently very much alike, and yet are very different.

But if the bacilli do not differ much to coarse inspection, so to speak, do not differ much in their anatomy, they do differ widely in their chemistry, which brings us to speak at once of the color tests; for the action of the coloring matters upon the bacilli is an expression of their chemical affinities. And here we find very great differences among the different bacilli. Pretty much all the micrococci can be tinted of any color indiscriminately, blue or red or brown, etc., but the bacilli show marked preferences for, or perhaps only become visible with, the use of certain hues. In the case of the bacillus of tuberculosis, for instance, the specimen supposed to contain it must be first tinted, then decolorized and tinted again, to bring it out with definiteness and distinctness. The bacilli of lepra, which closely resemble those of tuberculosis, can be colored only when fresh, not after desiccation; but hardened in alcohol they may be colored for years with gentian-violet or fuchsin. The spirochates of recurrens can be colored properly only in blood, but not in the tissues, with fuchsin, methyl-violet, or gentian. In section they can be colored only with aniline-brown.

I may best serve the purpose of my invitation here, I think, if I confine myself as closely as possible to the text presented, the bacillus tuberculosis, and I construe the occasion to mean a demonstration rather than a declamation. I have therefore had drawn merely as a means of coarse comparison the various sketches of micro-organisms of which I have spoken, and which I now exhibit, and having shown them, proceed to the clinical demonstration of the bacillus tuberculosis in the sputum.

This specimen of sputum, which answers to the old classical description *sputum rotundum fundum petendum*, I picked up in the hospital, or rather it was kindly given to me by an interne, Dr. Devlin, as taken from the cup of an advanced case. I have already prepared a specimen from it which I have here, and I proceed to repeat every step of the process necessary to its exhibition before you, commencing with the raw material. I select a small fragment of the sputum, and spread it with a knife as thin as possible over pretty much the whole surface of a cover-glass. The next step is to fix it, for if we should accidentally omit to fix it, we should have the albumen precipitated in forms which would puzzle the most profound mycologist. We may fix it, if we please, with glycerine-brown, a solution of analine-brown in glycerine, and for photographic purposes this is the best procedure, but for ordinary quick demonstration we fix it best by heat. I pass it therefore, two or three times through the Bunsen's jet, specimen side up, of course, taking care not to hold it in the flame lest it be burned up. The specimen is now fixed; it is dry, as any one may see, but it is not burned.

I have here now upon the table all the crude materials for the manufacture of the color-tests in common use. First is the bottle of aniline oil, a dark amber-colored fluid, and next is methyl-violet, which we select because it gives us the quickest results. The aniline oil mixed with distilled water, and allowed to stand four or five hours at least, with occasional agitation, gives us this soapy-looking fluid, which is labelled "the aqueous solution of aniline oil." The methyl-violet powder dissolved in alcohol, gives us this concentrated alcoholic solution of methyl-violet, and these two solutions mixed, in the proportion of one hundred grammes of the first to eleven grammes of the second, give us this deep violet, in thin layers iridescent, fluid which constitutes what we might call the first color. Several watch glasses having been half-filled with the first color, we let fall upon the surface of each, taking care that each rests upon, and does not sink below, the surface, a cover-glass with the specimen of sputum. We select several specimens because we might fail to find the bacillus in any one. Here now the specimens rest for half an hour, while we take up another portion of our subject.

Let us suppose that we will find in our preparation some specimens of the bacillus tuberculosis, or at least take it for granted that we can find it in most specimens of phthisical sputum, or in sections of tubercular structure; and on this subject there is now no doubt; the question at once arises as to the significance of the bacillus. The bacillus need not necessarily be the cause of the disease, any more than any one of the numerous micro-organisms found in the stools need be the cause of typhoid fever. In other words, presence does not imply pathogenesis. Koch might have felt convinced that he had found in this bacillus the cause of tuberculosis, but he would not be able to convince others to that effect unless he could produce tuberculosis with the bacillus. And that is what he did. But he had at first to isolate the bacillus from everything else. Koch had already effected this isolation of individual germs in other diseases, notably in milzbrand and forms of septicæmia, and he at once undertook to grow the bacillus upon the same soils. He soon found, however, that the bacillus would not grow, or would not grow well enough, upon any of these culture substances, and then he commenced to prepare for it its own native soil, the soil to which it is indigenous, so to speak, viz., blood. One might almost consider this thought as an inspiration of genius if it were not so strictly common-sense. The problem was, then, not to get a solid substance out of blood, for any one could do that in the process of coagulation, but to get a substance that would keep and would be clear. Sterilization and solidification at the same time were the factors sought. With the patience of science, he worked this problem out. Having drawn fresh blood into a perfectly clean vessel, he allowed it to stand absolutely at rest for twelve hours, when he withdrew into glass pipettes, previously sterilized by heat, the supernatant serum, and let it fall into test-tubes likewise purified and closed with plugs of sterilized cotton. These tubes were now subjected to a temperature of 58° C., one hour a day for six days, when full sterilization is effected, as proved by the fact that the blood will keep for months or years if the plug be not removed. Then solidification is effected by raising the temperature to 65° C., always in a water-bath, of course, withdrawing the tube from time to time to observe the period of gelatinization. Thus prepared, the tubes are inclined sideways somewhat, to offer a larger surface simply, and the bacilli, best from a tuberculous deposit in an animal artificially inoculated with the disease, are inserted upon the surface of the prepared blood. In other words, the seed is sown. For a week nothing is observed. At the end of ten days, however, a scaly appearance begins to show itself, the scale as it grows lifting itself from the subjacent soil and curling up upon itself like an old epidermis cell. It is very friable and is very easily detached, in which regard it differs widely from other micro-organisms, from milzbrand, for instance, which goes down into the substance of the soil as a film or cloud and gradually invades the whole mass. This scale upon the surface of the blood is the tuberculosis itself. A fragment of it put under the microscope is seen to be composed wholly of bacilli. It may be dissolved in fresh glycerine and injected, or it may be inserted with a needle or platinum wire and thus inoculation is effected. The wound heals in a day, leaving no trace, but in about two weeks the nearest lymphatic gland enlarges; in a few days more other

glands are affected and the animal begins to emaciate; in short, to present the general signs of tuberculosis. Now it may be allowed to die of the disease or it may be killed at any time and examined, when the organs present the picture of tuberculosis in degree corresponding to the amount injected. All these things have been so faithfully rendered before that I do not dwell upon them save to remark that while some animals, notably the dog and the rat, enjoy comparative immunity against spontaneous tuberculosis, there is no immunity to the artificial disease.

But this very fact of immunity and liability is an argument for the specificness of the disease. Thus the minute bacilli of mouse septicæmia kill house-mice but not field-mice. The bacilli of milzbrand kill mice, but not rats. The bacteria of rabbit septicæmia are always quickly fatal to rabbits and mice, and may be communicated to sparrows and doves, but do not affect guinea-pigs and rats. Age plays the *rôle* in these experiments, for which we are prepared by clinical observations concerning the acute infections. Thus milzbrand will affect young dogs and rats, but not older animals. Perhaps the most singular action in this connection is observed in mouse septicæmia, the bacilli of which kill young rabbits, but produce only a local affection or inflammation, a kind of erysipelas, in old rabbits.

We proceed now with our experiment. We observe, as we lift the cover-glass from its methylene bath, that the preparation is deeply stained. We shake off the superfluous color and immerse the specimen in the decolorizing solution, which consists of nitric acid (German pharmacopœia) one part to distilled water two parts, by volume. Moved about in this fluid, the color quickly disappears. Held between the eye and the light, the specimen looks almost colorless; but in washing off the superfluous acid, under a small stream of distilled water, it is seen that a faint tinge of color returns. The specimen is now ready for the second color, the concentrated aqueous solution of vesuvin, which colors all the field brown. One drop of the recently filtered, but still quite thick, solution is let fall upon the cover-glass while it is tipped about to diffuse it over the whole field, the cover-glass is pressed upon the slide, and the examination for bacilli commences. As we have already a preparation showing them in this specimen, we need waste no time in looking for them now..

Having said something of the color and the culture, let us pass now to the subject of control. No one would expect to cure a case of any disease by a mere knowledge of its cause. This is of course the prime factor, and is alone worth all the rest. But our knowledge of the bacillus tuberculosis is still too new for any consideration of agents destructive to the parasite. Nor is it probable that any such agent will be discovered, or will be ultimately necessary. We do not know any agent destructive to the trichina spiralis in the body, and yet the discovery of the trichina has almost put an end to the disease. That is, it has limited it to the ignorant and the careless. He who studies disease from the standpoint of control has a much wider range of intellectual vision than he who looks upon it simply from the standpoint of the common idea of a cure, But the bacillus tuberculosis from the standpoint of control must first be universally acknowledged.

It comes to us then with some points characteristic of it in its morphology, or we might say its anatomy; secondly, it has more definite chemical properties, as shown in its behavior to the aniline dyes; thirdly, it grows only upon a definite soil, different from many other bacilli, hence it has, we might say, speaking of it as of any other vegetable, its own agricultural properties; fourthly, it grows in its own peculiar way; and lastly, supremely important in a differential point of view, it has its own specific, exclusive, physiological properties, as evidenced by the constancy of its action upon pretty much the whole animal kingdom. Is there any other factor in all etiology that comes with stronger credentials? Let him explain it who can, however, the singular psychologic fact remains that every one is willing to admit all things in the case of milzbrand, but not in the case of tuberculosis. Is it, perhaps, because milzbrand so seldom affects mankind?

Koch never rushed into print with his discovery. He studied the bacillus tuberculosis thoroughly before he published the existence of it, and he determined the parasitic nature of it in the very simplest way: by the observation, namely, that it lives only at a temperature between 30° and 40° C. Milzbrand, its congener in so many ways, lives and produces spores in the coldest countries, and we see the worst epidemics of it in Siberia and other lands of the north. But milzbrand is not a parasite in the true sense of the term. The bacillus of milzbrand gets into the body of animals only accidentally, makes a little excursion, the Germans say, when it leaves the field, to be swallowed into the body of a cow. But the bacillus of tuberculosis requires body heat to live and thrive in, and produces no spores even two degrees above or below its natural climate.

So the bacillus tuberculosis is a true parasite, and when we recognize this fact, we almost get possession of it. It is like tracing a wild beast to its lair. The bacillus tuberculosis is not wild. It is motionless, sluggish mostly in its growth, but it is all the more cruel on account of these facts. Desiccation does not kill it, if it be kept sufficiently warm. Koch inoculated guinea-pigs with parasites from desiccated sputum a month old, and nevertheless produced the disease. One of the best of our own mycologists put it well when he said that "the mud of the gutter to-day is the dust of the air to-morrow." It is the sputum which disseminates the disease. In spontaneous tuberculosis the disease always begins in the lungs. Even in cases of basilar meningitis, a careful search will turn out nearly always a caseous bronchial gland as the initial lesion or depot whence is the local or general invasion of the body.

So here we have the clue to the control of the disease, and when the phthisical patient pulls out his sputum-saturated handkerchief, he opens the box of Pandora on the public highways. If I had to make practical response to the query what is the means of absolute control, I would say, in the light of existing knowledge, fire, and fire alone. No kind of bacillus will live in the fire. But a patient with phthisis cannot sit and spit in the fire. In the laboratory at Berlin there are many poisons floating in the air. The air of one of the rooms once became so permeated with milzbrand bacilli that a mouse, which is exquisitely sensitive to it, could not live in it more than twenty-four to forty-eight hours. Yet all the tools and instruments are thoroughly disinfected, that is, freed from germs, by the hot air- or water-bath; or, better still, when adoptable, by the Bunsen's jet. But the glass slides and cover-glasses could not be treated in this way. So there stands upon the table in each room a large glass vessel, holding half a gallon at least, and that much concentrated sulphuric acid is poured into each. Into this vat is thrown every slide and cover and test-tube that has been used, and once a month it is all cleaned out. Perhaps phthisical patients who may not be isolated as yet, as are other cases of a less malignant malady, might be restrained from disseminating the disease by the use of similar smaller portable vessels. But, however it be accomplished, the prime point now in prophylaxis is the recognition of the fact that it is the sputum which chiefly conveys the disease by contaminating our com-

mon reservoir of air. Just now it occurs to me, under the inspiration of this occasion, what many a classical scholar no doubt has thought of here without such stimulus: the disgrace it used to be held to be in the days of ancient Rome for a man to expectorate in public. And with our knowledge of the danger which lurks in the sputum often, how much graver insult it is than a mere breach of propriety, how much deeper offence than a mere disgrace.

ORIGINAL ARTICLES.

COMPLETE OUTWARD DISLOCATION OF THE RADIUS AND ULNA AT THE ELBOW.

BY A. B. ISHAM, M.D.,
OF CINCINNATI, OHIO.

ON the 11th of June, 1882, J. W. F., an insurance solicitor, was at a livery stable, standing at the head of a horse, upon the left side, with the bit-reins grasped in his right hand. The animal gave a sudden rear and spring, throwing Mr. F. forward and sideways with considerable force upon his left side. The gentleman, in his endeavors to get up, then fell head foremost down a hatchway, a height of about eight feet, alighting upon his head and shoulders in a pile of saw-dust. The result of the series of movements was a dislocation outwards of the radius, and outwards and backwards of the ulna. In consequence I was summoned to attend him at his residence, which I reached shortly after the accident, and where I found present Dr. H. T. Lowry, the family physician. The luxation, I should say, was complete. The forearm was somewhat flexed and pronated, and was freely movable at the elbow. The depression in the head of the radius could be plainly felt, and the bone could be rotated on the ulna external to the humeral articulation. The coronoid process of the ulna rested upon the posterior surface of the external condyle of the humerus, with the olecranon process projecting upwards and backwards, entirely external to the olecranon depression into which the finger could be placed. The sigmoid cavity could also be felt just above and internal to the head of the radius. The skin was so tightly stretched over the internal condyle that it seemed as though it must break through, while transversely the joint appeared nearly double its normal breadth. This great breadth, together with the increase in the antero-posterior dimensions of the joint upon the radial side, and the pointed and thinned appearance upon the ulnar side, gave to the elbow a most singular aspect of deformity. It suggested the idea of fracture of the lower end of the humerus with dislocation and twisting outwards of the radius and ulna.

Reduction was accomplished without anæsthetics. Dr. Lowry held the humerus firm, while with one hand I seized the forearm, making movements of extension and flexion, and at the same time with the other hand exerting strong pressure upon the head of the radius and upper part of the ulna from without inwards. After a little rather vigorous manipulation in this way we had the satisfaction of bringing the bones back into their natural positions. Having assured ourselves of the correct apposition of the parts, the limb was fixed in a state of semi-flexion upon an angular wooden splint.

Dr. Lowry had subsequent charge of the case. The splint was kept upon the limb for four days. Of course, after such injury to the joint structures there was considerable inflammation and soreness. The patient, who was very squeamish about the matter of physical pain, would not permit passive movements of extension and flexion to be made, and in such slight movements as he made himself he was very careful not to pass the point of comfort, consequently some adhesions formed, and the arm remains very slightly flexed. He can flex it perfectly, pronation and supination are not interfered with, but he cannot make complete extension of the forearm, although it comes out nearly straight. He is enabled to use it for nearly all purposes that he could before, and in time exercise will undoubtedly extend it thoroughly, though extension might be had at once if he possessed the courage to submit to the moderate amount of effort necessary to break down the slight adhesions.

The position of the coronoid process upon the posterior aspect of the external condyle affords a basis for the opinion that, in this particular instance, the dislocation of the radius and ulna outward first took place in a backward direction. In regard to the mechanism, it is probable that the displacement was brought about by the left arm being thrown out extended, in advance of the falling body, in order to abate the severity of the blow. The palm of the hand, coming in contact with the floor, formed the point for the distribution of the force, which, in its transmission upwards first ruptured the anterior and posterior ligaments, permitting the radius and ulna to be dislocated backwards. The burden of the shock then falling upon the lateral ligaments, these gave way, and the force now being displayed obliquely outwards as regards the long axis of the radius and ulna toward the elbow-joint, the upper ends of these bones were carried external to the lower extremity of the humerus. The first fall is thus likely responsible for all the displacements, although it is possible that only the backward dislocation proceeded from it, while the lateral may have happened from the descent down the hatchway. As to whether or not it was a complete dislocation, depends upon the views one holds as to what constitutes a complete outward dislocation. It could hardly have been more complete without the joint had been wrenched asunder, making a compound luxation. The fibrous investments having given way, the muscles and other soft tissues, already overstrained and compromised, could have scarcely resisted any further tension.

While I looked upon it as an unusual form of injury, no authorities were consulted, and my attention was not drawn to its rarity until Dr. Sieber's report of his case of outward dislocation of the radius and ulna appeared in THE MEDICAL NEWS of August 19, 1882. The complete cases recorded are not numerous, and some of these might have been rendered much more complete by more careful description. Dr. F. H. Hamilton in the 6th and last edition of his work on *Fractures and Dislocations*,

has references to six cases of complete outward dislocation of both forearm bones at the elbow, which he says are all that have occurred in America up to the time of the revision of his book. He has overlooked the cases of Drs. D. Johnston, of Louisville, and J. E. Mears, of Philadelphia; while probably the revision was completed before Dr. W. Ekwurzel, of Philadelphia, reported his case. In all, with my own case, 11 cases have been published up to this time in the United States. The list is appended, that any one who desires it may establish their authenticity:

1. Varick, T. R., *Medical Record*, November 1, 1867, p. 387, referred to by Hamilton.
2. Andrews, Dr., *Medical Record*, October 23, 1875, p. 720, referred to by Hamilton.
3. Wylie, W., *Medical and Surgical Reporter*, March 22, 1879, p. 250, referred to by Hamilton.
4. Osborne, H. B., *Hospital Gazette*, November 29, 1879, p. 613, referred to by Hamilton.
5. Johnston, D., *Medical Herald*, Louisville, 1879–'80, p. 58.
6. Mason, E., *Medical Record*, April 10, 1880, p. 397, referred to by Hamilton.
7. Mason E., *Medical Record*, April 10, 1880, p. 397, referred to by Hamilton.
8. Mears, J. E., *Medical Times*, Philadelphia, November 6, 1880, p. 89.
9. Ekwurzel, W., *Medical and Surgical Reporter*, July 9, 1881, p. 38.
10. Sieber, J. A., THE MEDICAL NEWS, Philadelphia, August 19, 1882.
11. Isham, A. B., THE MEDICAL NEWS, Philadelphia, September 30, 1882.

FOREIGN BODIES IN THE ANTERIOR CHAMBER OF THE EYE.

BY J. SANTOS FERNANDEZ, M.D.,
OF HAVANA.
(*Translated by* A. B. DE LUNA, M.D., of New York.)

FOREIGN bodies in the anterior chamber of the eye are not as frequent as the exposed position of the organ would lead us to suppose. I refer, of course, to substances penetrating into the anterior chamber and occasioning at the time no other lesion than the slight and almost imperceptible solution of continuity of the cornea. A. Tvert[1] speaking of wounds of, and foreign bodies in, the eye-ball, says that the records are few of what may properly be called "foreign bodies in the anterior chamber," and adds that amongst 5,465 patients seen by him in one year (1875), and of whom 342 were classified as "injuries," not a single case was found of the nature under consideration. In Galezowski's clinic I saw only one case during a period of seven consecutive months; while in my own, one is all I can find among the records of 10,000 cases. Desmarres mentions them as exceptional cases, a statement I would not gainsay, inasmuch as the statistics of my clinic, covering 12,000 cases of eye diseases, and a period of seven years, show only the three instances which I proceed to relate.

CASE I.—T. G., a mulatto, æt. 45 years, of good constitution, and by occupation a farm hand, was admitted August 14, 1875. Three days previously, while at work breaking stones, something hit him in the eye, the pain at the moment being so intense that he fell on the ground. On rising, the left eye felt very badly, could not bear the light, and ever since has been the seat, at night, of pain which extends to the superciliary region of the same side. On examination slight hyperæmia of the ocular conjunctiva was found, and three foreign bodies could be seen in the anterior chamber; two of them very small, and none larger than the head of an ordinary pin. Their whitish color strengthened the suspicion that they were fragments of stone. They were lying horizontally across the inferior hemisphere, in the angle between the iris and cornea, and very close to one another. The next question was as to the manner of extraction. A linear section of the superior portion of the cornea and seizure of the fragments from above with the iridectomy forceps is easy enough to plan, but in carrying it out there is danger of injuring the iris, lens, or cornea, without accomplishing the object. On the other hand, sections of the inferior portion of the cornea, in the region corresponding to the location of the foreign bodies, was also dangerous without iridectomy. The latter then was accordingly performed; but the knife had scarcely been withdrawn, when hypæmia occurred, and the foreign bodies were lost to view. Section of the iris now became imperative to insure the certainty of dragging them out; when effected, however, they were not to be seen, being concealed probably by the blood covering the ocular conjunctiva. A cataract dressing was applied and the patient put to bed, where he remained quietly, suffering no pain through the night, and when the dressing was changed the following morning, there was perfect union of the wound. Two days later hardly any vestige of hypæmia remained, and at the end of the week he was discharged, cured.

CASE II.—E. M., a Spaniard, 25 years old, and a workman in the Arsenal, was admitted July 13, 1877, and stated that three days before, while working on steel, a fragment hit him in the right eye, causing pain at the time, and a dimness of vision since then. Simple inspection by oblique light revealed a dark foreign body in the anterior chamber, located towards the inferior portion of the periphery of the iris and cornea. In size it was half a line in thickness by one in length, seemed somewhat adherent to the iris, and the aqueous humor was more opaque at the surface than in the rest of the anterior chamber. An opaque spot on the cornea opposite the foreign body indicated its point of entrance. The operation had to be postponed forty-eight hours, during which period the instillation of atropia was kept up. On the 15th, chloroform was administered, and I proceeded to extract the body by iridectomy at the region of its site, the fragment emerging entangled in the section of iris removed. The dressing already mentioned was applied, and the patient taken to bed. The pain incidental to the operation remained for several hours, diminished considerably during the night, and disappeared by the following morning. Everything then was doing well, and nothing untoward occurring, he was discharged three

[1] Recueil de Ophthalmogie, April, 1877.

days after. On the 27th of July and 6th of August, he reported in good condition, and with perfect binocular vision.

CASE III.—E. G. C., a native of Havana, 17 years old, and by occupation a mechanic, came to the clinic the first time on the 18th of July, 1877, on account of a speck of iron which got into his eye while at work only a few hours before, disabling him from further labor. On examination a foreign body resembling the point of a pin was discovered in the centre of the cornea and removed in the usual way. On the 27th of June, 1881, he once more made his appearance, complaining of something which had again lodged in one of his eyes. Placed in a good light a glistening foreign body could be seen lying on the iris, and which at times seemed located in the cornea. On this membrane no evidence of the passage of the foreign body could be detected at first, but a more searching inspection by oblique artificial light revealed a very minute opacity in the internal inferior segment, and almost at the level of the transverse diameter. This was the point of entrance, although the fragment lay in the internal and superior segment of the iris, the divergence being due to its flight from below upwards, in which direction it entered the eye. No change had taken place in the organ; the aqueous humor was still clear; the pupil reacted normally; and the only subjective symptom present was slight discomfort in the eye. The diagnosis established, the gravity of the prognosis was obvious, unless the foreign body could be skilfully extracted, and its removal was indicated before the occurrence of inflammatory action rendered it more difficult or impossible. On the afternoon of the same day the patient was anæsthetized with chloroform and the operation undertaken, the pupil being well contracted by the previous instillation of a few drops of bromohydrate of eserine. With a triangular knife a linear section half a centimetre long was made in the internal and superior segment of the cornea. The slow withdrawal of the knife was followed by the escape of the aqueous humor without prolapse of the iris, and the disappearance of the anterior chamber. Mathieu's iridectomy forceps were now introduced, and the foreign body seized, but so insecurely that it slipped off; a second attempt, however, was more successful, and it was safely extracted. After the operation atropia was dropped in the eye, and the patient vomited. No pain was complained of when the effect of the chloroform had entirely disappeared; the ocular conjunctiva was slightly injected; the pupil had dilated transversely, assuming an elliptic form; and on that portion of the iris where the fragment rested there was a slight reddish spot, probably an insignificant hypæmia. The patient seemed perfectly well on the following day, and was discharged at his own request.

The foregoing cases demonstrate in my estimation the course to be pursued when foreign bodies lodge in the anterior chamber of the eye, as well as the difficulties attending their removal, and the disorders that the delay in effecting this may provoke. Thus, in Case I., we see how the low position of the fragments was a serious obstacle to the operation, as the corneal section had to be performed in the very segment occupied by them, and there was danger of dragging the foreign bodies with the knife. The external or internal hyperæmia occurring in two of the cases cannot always be prevented, and so darkens the field of operation and conceals the foreign body as to necessitate the unavoidable mutilation of the iris by iridectomy. In the second case the operation was delayed, and incipient inflammatory action already gave warning of a possible iritis, exudation, concealment of the foreign body, and a difficult operation. The extraction of the foreign body, however, is always indicated; it is the *cause* of the trouble, and no principle is better established in medicine as that of the *removal of the causes* of disease. In a case of extraction of a foreign body with iridectomy, which I witnessed in Paris, the eye was so shrunken as to convey the impression of incipient atrophy of the bulb, and yet, after the operation, the organ regained its normal fulness, and I doubt not sight was restored. When, on the other hand, the condition of things is such as obtained in Case III., and the foreign body lies within easy reach of the forceps, and no hyperæmia supervenes, the operation presents no difficulties, and is crowned by complete success.

HAVANA, July, 1882.

AN AUTOMATIC CURRENT INTERRUPTER.

BY ROBERT MEADE SMITH, M. D.,
DEMONSTRATOR OF PHYSIOLOGY, UNIVERSITY OF PENNSYLVANIA.

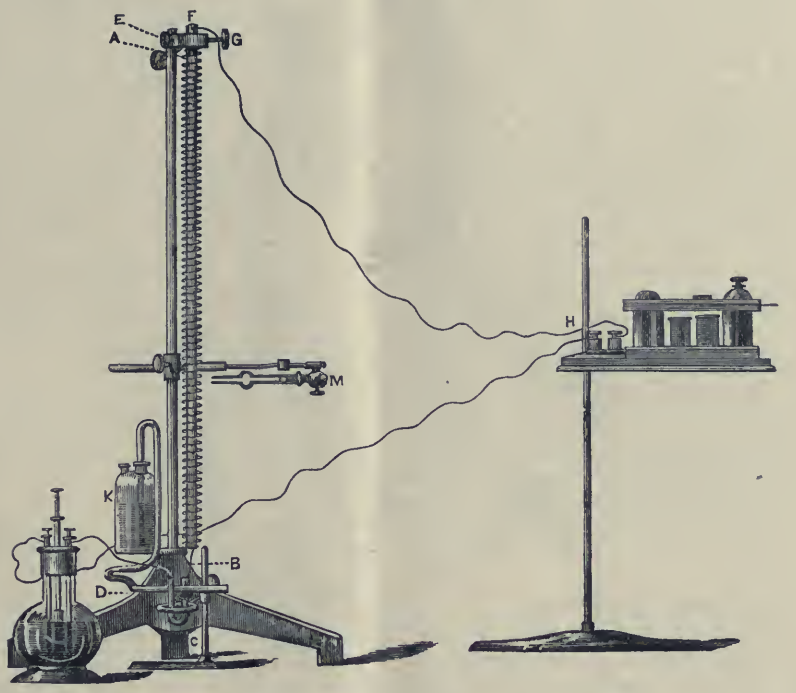
IT is well known that, according to the laws of Ampère, parallel electric currents passing through conductors in the same direction, attract each other, and an instrument based on this fact, known to teachers of physics as Roget's spiral, suggested to me that the same principle might be made use of for the automatic interruption of a current for various physiological or medical purposes.

The arrangement I have made use of is represented in Fig. 1. A spiral of insulated copper wire (made by wrapping the wire around a wooden cylinder) is suspended vertically from the cross arm A, so that the free end, B, dips into the mercury in the U-tube, C, in the other arm of which dips a second wire, D, connected with the + pole of a single Grenet cell. In the figure, the end, B, of the spiral should have been vertical, and the U-tube should have been more elevated. The fixed end of the spiral is connected at the binding-screw E with a second insulated copper wire wrapped in the same direction around the core of soft iron F, starting from its fixed end to its free extremity, and then returning, after having again wrapped around the core, to the binding-post G. The post G and the — pole of the battery are then connected with wires to the electro-magnet at H, or to any apparatus through which it is desired to send the interrupted current.

When now the zinc is pushed down into the battery fluid, the current passes through the mercury into the free end of the spiral, through the spiral into the binding-post E; then down the inner coil around the bar of soft iron and back to the screw G, then to the electro-magnet and back to the battery. As

soon, however, as the current commences to pass through the spiral, each coil is attracted by the one next above it, in accordance with the law of Ampère above alluded to, and the spiral shortens enough to draw its free end out of the mercury, thus interrupting the circuit; the coil then lengthens from its own weight, dips again into the mercury, shortens, breaks the circuit, falls again, and so on indefinitely. At K is a flask, containing alcohol, which is connected by a siphon to the U-tube; by flowing over the mercury the alcohol serves to keep its surface clean.

FIG. 1.



The value of the inner helix and core is greatly to intensify the attractive influence between the coils of the outer spiral; in the first place, the currents in the inner and outer spirals being parallel and in the same direction, attract one another; and in the second place, the current passing around the core renders it magnetic by resolving the Ampèrian currents into a current flowing in the same direction as that in the inducing helix, and intensifies its action, thus producing an action analagous to that resulting when the north pole of a magnet is brought within the coil of the north pole of a solenoid. For if a bar of soft iron, or the north pole of a bar magnet is brought partly within the coils of a solenoid (at its north pole, in the case of the magnet), the bar will be drawn still further within the coils of the solenoid until the magnetic forces are in equilibrium. But if the bar is fixed and the helix is free to move, as in the case of the apparatus described, the coils will be compressed and tend to cover the bar by an analogous action.

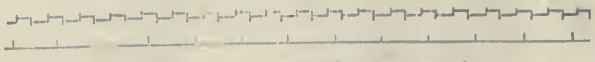
A similar intensifying effect on the outer spiral, though weaker than in the above instance, may be produced by inserting a permanent bar magnet, instead of the electro-magnet, within the coils of the spiral, the effect being due to the attractions between the Ampèrian current of the magnet and the helix, though it must be remembered that the *north pole* of the magnet must be downwards if the helix is dextrorsal, or the reverse, if it is a sinistrorsal helix.

By means of this apparatus interruptions of an electric current can be obtained at perfectly regular intervals, the rate depending on the length and coefficient of elasticity of the spring. If we have a spiral spring of uniform elasticity, one end fixed and one end free to vibrate, its rate of vibration will be governed by the same laws as those regulating the longitudinal vibration of rods fixed at one end, *i. e.*, the rate of vibration will be inversely proportional to the length of the spring, or half the spring will vibrate twice as fast as the whole spring, one-third three times as fast, and so on. Practically, however, we find that the elasticity will vary in different parts of the spiral from lack of uniformity in the wire, and from the fact that each coil, as we ascend the spiral, is supporting the gradually increasing weight of the coils below, and therefore the tension will vary in different parts of the coil.

It is a very simple matter, however, to determine once for all the rates of vibration of any given spring by ascertaining the number of interruptions for each coil by comparison with some given standard, when a scale can be made for future use.

Thus in the spring which I have most used, the entire length of spiral (consisting of 93 coils) vi-

FIG. 2.



One and a half interruptions per second.

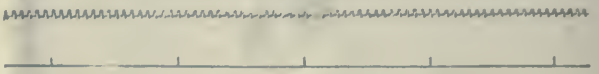
FIG. 3.

Three interruptions per second.

FIG. 4.

Ten interruptions per second.

FIG. 5.



Sixteen interruptions per second.

brates at the rate of 1½ per second; half the coil, or 46½ turns, should then vibrate three times a second. Practically we find that 43 coils vibrating, give this rate, and so on, with a slight discrepancy between the theoretical and practical numbers from the causes above alluded to. The coil is shortened to the desired length by means of the sliding clamp M.

A few examples (Figs. 2, 3, 4, and 5, acurately reproduced from tracings) are given to show the regularity of the rate of vibration; the lower line, which serves as a standard, was made by an electro-magnetic marker connected with Ludwig's current breaker (Unterbrechungsuhr) beating seconds. Tracings were made for each individual coil of the spiral and each tracing continued for thirty seconds, so as to avoid any errors in the omission of fractions where only a few seconds were counted; this also was done in the examples given, the reduction in length of the published tracings made being for the sake of economy of space. With this spiral, perfectly regular interruptions may be obtained varying from 1½ per second up to 16 per second, with the intermediate fractions.

MEDICAL PROGRESS.

CYST OF THE PANCREAS; LAPAROTOMY; DEATH.—BUKOWSKI relates in the *Centralb. f. Chirurgie*, No. 26, 1882, the case of a woman, aged 36, who was admitted into the Maria Theresa Hospital at Vienna with a fluctuating tumor, situated below the navel, and which could be readily depressed by the hand into the cavity of the pelvis. The tumor had then been present for two years and nine months, and was gradually increasing in size. It was diagnosed as an ovarian cyst, and on Feb. 27, M. Rokitansky undertook its extirpation. An incision twenty-four centimetres long was made in the linea alba, and a quantity of ascitic fluid allowed to escape. The tumor then protruded, and was found to be adherent on its anterior surface to the greater omentum, the posterior wall of the stomach, and the ascending and descending colon: the latter was torn in the attempt to free it from its adhesions, and the rent closed with five sutures. No less than fifty ligatures were necessary to control the hemorrhage. At the moment of attaching the mesentery, the cyst ruptured, and part of its contents escaped into the abdominal cavity; nevertheless, five litres of a brownish liquid were drawn from the cyst.

After two hours of fruitless attempts, it was necessary, on account of impending death, to abandon the idea of extirpating the cyst, the portions still adherent being divided with an ecraseur. The peritoneal cavity was washed out through a drainage-tube by two per cent. solution of carbolic acid. On the sixth day after the operation, feces escaped through the drainage-tube; on the next day the woman died.

At the autopsy, purulent peritonitis was found; the base of the cyst was connected with the tail and body of the pancreas, its interior being in connection with the pancreatic duct.

The fluid contained coloring matter, blood, serum albumen, serum globulin, paralbumen, cholesterin, and inorganic salts.—*Gaz. Méd. de Paris*, August 26, 1882.

INJECTIONS OF IODINE IN OVARIAN CYSTS.—M. BOINÉT read a paper on this subject before a recent meeting of the Societé de Chirurgie. His conclusions are:

1. That injections of iodine are especially efficacious in unilocular, limpid, serous cysts.
2. When the contained fluid is thick, tenacious, and albuminous, it is better to have recourse to ovariotomy.
3. Injections of iodine are also suitable to purulent cysts and hæmatoma.
4. When the cyst contains a fluid as clear as water, a simple puncture is usually all that is necessary for a cure; should the secretion again form, injections of iodine may be employed.—*Rev. de Thérapeutique*, September 1, 1881.

TEST FOR ATROPIA AND DATURIA.—If a specimen of either atropia or daturia, or of their salts, be covered with a little fuming nitric acid, evaporated to dryness on the water-bath, and when cold moistened with a drop of a solution of caustic potassium in absolute alcohol, a violet color is at once produced, which soon passes into a fine red. The violet color only is characteristic, since strychnia, when similarly treated, gives the red. According to *Zeit. f. Anal. Chem.*, one-millionth of a gramme of atropia sulphate can be thus detected. None of the other alkaloids act similarly.—*Chicago Med. Rev.*, September 15, 1882.

SEMPER'S METHOD OF MAKING ANATOMICAL PREPARATIONS.—DR. SEMPER, Professor of Zoölogy at the University of Würzburg, has discovered a method of making anatomical preparations which assures the preservation of the several organs. He has used the method constantly for several years, and the results are said to be excellent. After the dissection is made, it is macerated from one to five days according to its proportions in weak chromic acid (1 to 2 per 100); it is then washed, and treated with weak alcohol (30 per 100), adding alcohol of gradually increased strength. The preparation is then placed in strong alcohol from one to seven or eight days, afterwards in absolute alcohol, and finally it is left to macerate in turpentine until it is thoroughly soaked. The preparation is then spread out and allowed to dry by contact with the air, it thus becomes perfectly white; the different organs can be colored by using the best oil colors. When the preparations have been thoroughly dried after their maceration in turpentine, they reassume to a great extent their natural coloring, if they be immersed in a mixture composed of equal parts of a saturated solution of white sugar and glycerine.—*British Medical Journal*, September 9, 1882.

The Iodoform Treatment of Wounds.—In the Augusta Hospital at Berlin, for some time past, a 10 per cent. solution of iodoform in collodium has been used for the purpose of closing antiseptically small recent wounds, which neither required nor admitted of the application of a compress-dressing. The wound is first cleaned and disinfected, any bleeding stopped, and the necessary sutures applied, and then the surface is painted with the iodoform solution till a strong and perfectly protective covering is formed. This treatment is employed in the case of wounds healing by first intention, as well as in recently sutured large wounds to which, either on account of their position or as the result of operation, a compressing antiseptic bandage cannot be applied, *e. g.*, after excision of the submaxilla, or of small tumors, atheromatous cysts, or lipomata in the region of the anus, female genitals, or eye. The stitches remain in for eight or ten days, at the end of which period primary union is found to be complete. Dr. Theodor Görges (*Centralb. f. Chirurg.*) also had good success with this solution in the treatment of tracheotomy wounds during diphtheria. Instead of using the pad of carbolized oil lint which was formerly placed over such wounds, he now paints the raw surfaces (after hemorrhage has been arrested) with the iodoform-collodium. The application is repeated daily after the old crust has been first removed. The wound thus treated is merely covered with a small dry pad to keep off the pressure of the canula. This treatment has been employed in 25 cases altogether (22 diphtheritic) without the wound in any one case becoming phlegmonous, whilst under the old employment one out of every five cases would become so involved. In conclusion, he adds a few remarks on iodoform treatment in general. Since Professor Küster commenced the general employment of iodoform in the Augusta Hospital three months ago, the results obtained have been very different from the success so copiously announced from all sides. Not only have toxæmic symptoms been observed even after its employment in minute doses; not only have several cases of cerebral complication with typhous symptoms occurred; but erysipelas and phlegmonous inflammation have appeared in rapid sequence—accidents which, under Lister's treatment, have been there of the greatest rarity. Thus, among certain mammary amputations, where iodoform was applied under a typical Lister's dressing, three cases of erysipelas occurred, and one of these ended fatally. Suppuration also followed its use in cases of herniotomy and amputation of the upper arm, etc. Thus iodoform seems to afford but a slight protection against erysipelas, and even when applied in the finest powder to sutured wounds, which should heal by first intention, it seems to act as a foreign body and to lead to retention of secretion or aseptic suppuration. At all events, these accidents have induced them to return to the Listerian treatment, under which, during the past year, were obtained such speedy and satisfactory results. Perhaps these remarks may call forth a clearer definition of the cases in which iodoform should be chosen, and of those in which the earlier forms of treatment should be relied on.—*Edinburgh Medical Journal*, September, 1882.

Chloroform-water.—In an article in the *Gazette des Hôpitaux*, of March 25, attention is drawn to this highly useful preparation of chloroform for internal use. Profs. Lasègue and Regnauld have shown that the solubility of chloroform in water does not exceed 9 per 1000. The solution is obtained by pouring an excess of chloroform in a bottle three parts full of distilled water, shaking the mixture repeatedly, and then allowing the insoluble chloroform to deposit until complete transparency is obtained. The separation of the saturated solution is then made by decantation, or by means of a siphon. This solution, being too strong for internal use, requires dilution. (The *Aqua chloroformi* of the British Pharmacopœia has a nominal strength of 1 in 200.) Various salts (as chlorate of potash, borate, bicarbonate, and salicylate of sodium) may be dissolved in this water without undergoing any modification; and Profs. Lasègue and Regnauld are of the opinion that chloroform-water, either pure or diluted, will meet every need in the internal administration of this substance. Having a pleasant taste in the mouth which lasts for a minute or two, it is well calculated to disguise the unpleasant taste of various medicines, as castor-oil, etc. By the direct action which it exerts on the mucous membranes, it may prove useful in certain affections of the mouth, gums, teeth, velum, and pharynx. It exerts a stimulant action on the stomach, but it acts differently according as it is taken before, during, or after a meal, and according to the lapse of time that has intervened between taking the meal and the absorption of the chloroform. Given before a repast, in aid of the appetite, the chloroform-water is a bad agent; but given after a meal, whether alone or combined with an alcoholic wine and sweetened, it increases the stimulant properties of the wine or produces like effects. When administered to allay the manifold troubles which supervene during the course of digestion and produce its disturbance it has much value. Its maximum therapeutic action is obtained three or four hours after the meal, when functional disturbances show themselves by yawning, distention, gaseous eructations, a sense of epigastric pressure or heaviness, flushings of the face, and threatenings of vertigo. But when the digestive disturbances are manifested by acute lancinating pains of the stomach, oppression, palpitations of the heart, fleeting febrile action, dryness of the mouth, painful tympanites, etc., the action of the chloroform-water is injurious; this stage contra-indicates all forms of stimulants. In a word, the chloroform-water acts on the stomach in the same calming way as upon the interior of the mouth, and if it does not cure the affection, at least it mitigates its consequences. It is a remedy for the crisis, but does not render needless the proper treatment-in-chief. It is eminently suitable in painful digestion arising from dilatation of the stomach.—*Practitioner*, September, 1882.

Rare Form of Senile Gangrene.—Mr. Joseph Bell reports the following case: W. H., æt. 75, a very healthy, temperate, contented old man, of spare habit and fairly healthy arteries, was sent into the hospital on January 17, 1882. The second toe of his right foot was black and evidently dead. He said that a few days before admission he had met with an accident, the iron plate of a retort having fallen on his foot. The whole foot was red and swollen; not much pain, and no constitutional disturbance. On January 24th, the dead toe was nipped off with scissors, no blood being lost; the tendons alone required division. The bones were noticed to be curiously macerated, as if they had lain long in water. In another fortnight the third toe, which had been alive and healthy, except for a slight redness, also died and was lifted off, the bones being macerated, and this time the tendons also destroyed. The resulting gap left by the removal of these two toes was large but painless, and suppurated freely with little odor. Up to March 10th, all went well, and the wound was nearly healed. The extremities of the second and third metatarsals had separated from their shafts at the epiphysial junction, and were lifted out with ease.

On March 10th, however, without either pain or elevation of temperature, a dark blush was noticed all

over the great toe, which had hitherto looked healthy, and half way up its metatarsal bone. The circulation in this area was exceedingly sluggish, the finger leaving a white dimple on pressure, which took several seconds to refill with blood. After two or three days of doubt a bulla was noticed to form just on the dorsum of the metatarso-phalangeal joint. This bulla rapidly raised the cuticle to the size of a florin, and, being cautiously cut into, showed the true skin, not as usual in such cases, either shrivelled up or sloughing, but as if it had melted into a shreddy pultaceous mass, and this involved not only skin, but cellular tissue, ligaments, and periosteum, for by March 20th, without any displacement of parts, suppuration, or odor, the proximal phalanx and metatarsal head were both exposed as if thoroughly macerated, and lay loose in this pultaceous mass. The edges of the ulcer or cavity were everted and undermined as if by a gumma, were of a pinky redness. but exhibited no granulations or any attempt at repair. Having watched many cases of senile gangrene from embolism also for months under careful observation, he was quite familiar with the usual processes of separation, whether moist or dry; but he had never seen or read of any case in the least resembling this one, whether in its rapidity of maceration of tissue, its curious cessations or intermissions, its freedom from pain, and apparently trifling effect on the constitution.

The treatment was purely expectant, no intereference that could be avoided, absolute rest in bed, milk, diet, which was well borne, and locally keeping the limb at an equable temperature by cotton wadding (carbolized) and marine lint to sop up discharges.

The result has been remarkable. To-day, June 30th, the apparently dead and macerating heads of metatarsal and first phalanx have recovered themselves, granulations have formed, and now the wound has closed, with the exception of a line of granulations about a quarter of an inch long and one-sixth of an inch broad, under which can be felt a thin scale of carious bone. The old man is quite well, and goes home this week.—*Edinburgh Med. Journ.*, August, 1882.

INTESTINAL OCCLUSION BY AN ABSCESS OF THE PANCREAS; LAPAROTOMY; DEATH.—At the last Congress of German Surgeons, ROSENBACH related the case of a woman, aged 57 years, who, for eight weeks before her entrance into the hospital, had been suffering from obstinate constipation. When she came under Rosenbach's care, she had not had a movement of the bowels for three days, and was suffering from stercoraceous vomiting. The left half of the abdomen was greatly distended with gas, and a fluctuating tumor, the size of a child's head, could be felt below and behind the stomach. As the constipation could not be overcome, laparotomy was performed, the abdomen being opened by an incision in the linea alba over the tumor. The tumor was surrounded by an inflammatory zone, and could not be isolated; it was accidentally ruptured, and a fetid liquid escaped. The edges of the sac were united with the edges of the abdominal wound, and drainage carried on through tubes. The patient died of collapse in six hours. The autopsy showed that the case was one of abscess of the pancreas, extending to the stomach and lesser omentum, and originating in a point of necrosis of the pancreas. It had contracted adhesions with the large intestine, and had obliterated its canal by compression.—*Gaz. Méd. de Paris*, August 26, 1882.

THE INFLUENCE OF NERVE-SECTION ON THE FORMATION OF CALLUS IN FRACTURES.—From an elaborate experimental investigation, DR. W. KUSMIN draws the following conclusions:

1. After section of nerves in cases of fracture, the formation of callus is much greater and firmer than where no such operation has been performed.

2. The lime impregnation of the callus, after nerve-section, proceeds more rapidly, and terminates in genuine bone formation.

3. The formation of bone in the callus first occurs by metaplasis.

4. In the later stages the bone is formed in a manner analagous to endochrondal ossification; that is, neoplasis is associated with metaplasis.

5. The first signs of ossification in adjusted fractures commence under the periosteum and at the outer periphery of the old bone. In preparations in which the nerves have been divided, the process progresses much more rapidly in both localities.—*All. Wiener Med. Zeit.*, August 29, 1882.

AN ABNORMALLY LONG STYLOID PROCESS AS THE CAUSE OF DYSPHAGIA.—DR. WIENLECHER relates two cases of the above trouble. In the first, a lady patient experienced since twelve days a severe pain, accompanied by a sensation of pressure in the right tonsil. On examination, a hard body was found, the blunt end of which pressed forward against the mucous membrane. It could be traced outwards, could not be felt above, but corresponded in all to the site, etc., of the styloid process. Dr. Wienlecher pressed it forcibly outward and it disappeared with a crash, plainly heard by all around. The dysphagia disappeared. After ten months the patient returned with the same trouble which had appeared since three days. Pathology and treatment were the same, neither after the operation nor on the next day could a hard body be felt. In another case observed by the author it was impossible to fracture the bone. The author draws attention to the fact that this anomaly may impede incision of the tonsil from below upward.—*Chicago Med. Rev.*, September 15, 1882.

IODOFORM IN TERTIARY SYPHILIS.—DR. THOMANN, of Gratz, concludes a communication on this subject, as follows:

1. Iodoform exerts a favorable influence on the process of healing of tertiary syphilitic lesions.

2. Very large doses can be borne, and hasten a cure.

3. Iodine can be found in the urine for as long as 43 days after the cessation of the administration of iodoform; the organism, therefore, is for a long time subjected to the action of the drug.

4. No unpleasant effects are produced, the acne and coryza which often follow prolonged administration of iodide of potassium can be therefore avoided.—*Centralb. f. d. Med. Wissen.*, September 2, 1882.

TREATMENT OF VAGINITIS.—For the last two years M. GOUGUENHEIM (*Journ. de Méd. de Paris*) has treated acute blennorrhagic vaginitis at the Lourcine by a method which has given him most favorable results, and which is exceedingly simple. It consists in placing in the vagina, with the aid of a small speculum, bags of variable size made of coarse muslin, and nearly filled with a powder composed of a mixture of nine parts of alum and one part of tannic acid. The bag is left *in situ* from twelve to eighteen hours, and is then withdrawn, while the patient is in a bath, by means of a cord attached to it, as to an ordinary plug. After the withdrawal of the bag, the vagina is syringed out with warm water to facilitate the removal of the membrane that has formed. After a few repetitions of this mode of treatment, twice a week, the discharge ceases. Dr. Gouguenheim says he has borrowed the idea of these bags from the practice of Madame Lachapelle.—*Dublin Journ. of Med. Science*, July, 1882.

Nystagmus and Hemeralopia of Miners.—At the meeting of the French Association for the Advancement of the Sciences, on August 24, 1882, M. Dransart read a paper on this subject, based on ninety-three observations. The following are his conclusions:

1. The nystagmus of miners depends upon a paresis of the elevator apparatus of the eyes, both muscles and nerves, produced by excessive fatigue. This paresis is independent of any central lesion and any abnormal refraction. General atony, anæmia, and bad light are secondarily important factors, but are not essential to the production of the nystagmus.

2. A condition of hemeralopia, intimately associated with the nystagmus, also exists in miners; it can, however, occur independently of the latter affection.

3. The nystagmus is a curable disease; it should not be considered as exempting from military service.—*Gaz. Méd. de Paris*, September 2, 1882.

Diet in Chronic Nephritis.—Prof. Lichtheim (*Corres. f. Schweiz. Aerzte*, No. 7, 1882), in an address to the Medico-Chirurgical Society of Berne, treats this subject with much fulness. The ordinary practice, he says, is to prescribe a diet more than usually rich in albumen with a view of replacing the loss from the kidneys. The patient's danger from loss of albumen is, however, much less than that arising from the imperfect filtration performed by the kidneys, and the consequent retention of nitrogenous waste-products in the blood. For a considerable time this tendency to retention may be counteracted by the increased blood-pressure and cardiac hypertrophy, which effect a sufficient elimination even from the defective kidneys. This being the case, it must needs be unwise to strain this attempted compensation unduly by giving nitrogenous foods in quantity; this merely implies increased production of nitrogenous waste and increased work on the eliminating organs. The result of such a regimen must be a further increase of the blood-pressure and greater cardiac hypertrophy, until at last the heart ceases to respond and becomes dilated; in other words, a new difficulty to the embarrassed circulation is raised. By giving food which contained little nitrogen the author has found that the dyspnœa of confirmed nephritics rapidly disappeared. He is inclined to regard this dyspnœa not as uræmic, but as a simple consequence of insufficient contraction of the heart, analogous, therefore, to the dyspnœa of cardiac patients.—*Practitioner*, September, 1882.

The Normal Venous Pulse and the Venous Pulse in Pericardial Effusions.—From an experimental study of this subject, Dr. Frantz Riegel draws the following conclusions:

1. The normal jugular venous pulse of animals is anadicrotic, katamonocrotic. The anadicrotic wave corresponds with the diastole of the ventricle and the auricular systole, and the katacrotic limb with the ventricular systole. In these peculiarities it resembles the normal human venous pulse.

2. In high degrees of increased intra-pericardial pressure, as in pericardial exudation, the venous pulse is diastolic-presystolic, and never coincides with the systole of the ventricle.

3. Increase of intra-pericardial pressure depresses the arterial and elevates the venous blood pressure. On the other hand, in excessive intra-pericardial pressure the initial increase of venous blood pressure gradually disappears.

4. The normal collapse of the veins at each systole of the heart is caused by the synchronous diastole of the auricle; the increase of negative pressure in the pericardium at each ventricular systole, by decrease of volume, may also assist in the production of this phenomenon.—*Deutsches Arch. f. klin. Med.*, Bd. xxxi., 5 u. 6.

Resection of Carcinomatous Large Intestine.—Richter (*Centralb. für Chirurgie*) reports the case of a patient, aged 33, who had been frequently under treatment for stenosis of the intestines (said to be the result of dysentery) situated in the region of the sigmoid flexure, where a firm cord-like swelling could be felt through the abdominal walls. At length the patient's symptoms became so urgent that immediate operation was resolved on. The abdomen was opened in the linea alba, the distended small intestines, wrapped in disinfected cloths, were drawn to one side, and the stricture, seated a little above the sigmoid flexure, was exposed. The affected intestine, drawn well forwards, was divided by a transverse incision immediately above the point of stricture, and a large quantity of very offensive, tenacious, fluid fecal matter was evacuated; but in spite of this the distention of the small intestines was scarcely diminished. The gut was then punctured in several places with a trocar, the gas and feces expressed, and the punctures closed with catgut sutures. The portion of intestine which had been drawn forward was then disinfected and replaced *in situ* above the stricture. The lower end of the colon was kept closed during the operation by the fingers of an assistant. Three inches of the strictured portion of the gut were then excised, and the upper tube was joined to the lower by means of Czerny's suture. The short mesentery was treated in a similar manner. The point of union was then fixed opposite the inferior extremity of the wound in the parietes, which was left unsutured in its inferior fourth. Finally a Lister dressing was applied. Duration of the operation, three hours. On examination the stricture was found to be cancerous. A small stool was passed only a few hours after the operation; but on the eighth day, feces and flatus escaping through the wound, the Lister's dressing was abandoned and open treatment adopted. Gradually the stools began to pass *per vias naturales*, and by April 19th, or fifty-four days after the operation, the patient was able to spend the greater part of the day out of bed, although for a month more there was an evening rise of temperature. The fistula at last healed under applications of the thermo-cautery and argenti nitras. On October 19th the patient was dismissed strong and well.

Köhler considers that resection is preferable to colotomy in all cases where the disease has not extensively involved neighboring structures, or where the patient's strength is not so reduced that this severe operation cannot be safely performed. Von Erekelen's researches show that life was prolonged in 62 per cent. of the published cases of colotomy; but, of course, the focus of disease was not thereby removed, and there was no thought of a radical cure. Such a cure is, however, much more likely after extirpation, for the growth rarely infects the lymphatic glands, and is but little prone to metastatic formation or recurrence. Besides, this method renders the objectionable artificial anus unnecessary. Up to the present time 18 out of 25 cases of completed resection of the large intestine have taken a favorable course. In three of these the disease has recurred with a fatal result; but the remaining 15, *i. e.*, 60 per cent. of all those operated upon, seem to be perfectly cured.

As regards operative details, Köhler recommends that the abdominal incision be made in the linea alba, arrest of hemorrhage being thus facilitated and a good view of the parts obtained. During the operation the divided end of the intestine is to be kept closed by the hand of an assistant, whilst, if possible, the piece to be resected and the adjacent healthy part are drawn beyond the abdominal wall, so that an escape of intestinal con-

tents may not take place into the peritoneal cavity. Finally, he recommends that, as in the case above described, the sutured intestine should be fixed opposite the lower end of the wound in the abdomen (Köhler, *Inaug. Dis., Breslau*).—*Edinburgh Med. Journ.*, Aug. 1882.

Hystero-epilepsy in a Boy.—M. Bourneville has put on record, in the *Progrès Médical*, for August 26, a second case of hystero-epilepsy in a boy. The child was thirteen years of age when he came under observation. The following points in his history seem worthy of note: His parents were first cousins. His father was subject to migraine in early life; his mother had spasmodic wry-neck in infancy, one of her sisters was idiotic (?). The patient was the eldest child; he seems to have been always an excitable child and easily frightened, subject to night-terrors. His hysterical attacks commenced in the month of February, 1880, about a month before he came under observation. The first one came on, whilst he was at work at school, with vertigo, and, after lasting two hours, was terminated by singing, crying, and laughter. The senses of hearing, sight, taste, and smell were decidedly less acute on the left than on the right side, and the same may be said of the common sensibility of his buccal mucous membrane and conjunctiva. His intellectual faculties seemed unimpaired, and he was said to be gentle and affectionate. There was no history of masturbation. On examination, several different areas were found, over which pressure was painful (*zones hystérogênes*). They were situated as follows: 1. "*Clou hystérique*," at a small spot, two centimetres in front of the vertex. 2. "*Rachialgie*," over the spinous processes of the fifth, sixth, and seventh dorsal vertebræ. 3. Symmetrical spots on each side in the fifth intercostal space midway between the nipple and the axillary line. 4. A painful spot in the seventh left intercostal space, about five centimetres from the spot. 5. A spot over the manubrium sterni. 6. Symmetrical spots over the loins. 7. A spot almost over the centre of the iliac fossæ, corresponding to the "ovarian" region; that on the left side is the most marked. The attacks recurred at regular intervals, and lasted from one to two hours. They were preceded by an aura, which consisted of a sensation of a ball rising from the penis to the epigastrum, and thence to the level of the larynx. This was followed by the "*clou hystérique*," and then he lost consciousness. The attacks were characterized by a preliminary stage of rigidity of unusually short duration, succeeded by a clonic period, which was, on the other hand, of unusual length, comprising varied contortions and passional attitudes. During this period he would try, by different methods, to injure himself or those around him. The attack concluded, he sometimes had hallucinations of sight. He also presented a hemianæsthesia, at one time on the left side, at another on the right. The patient was cured (apparently in a permanent manner) by the assiduous use of cold douche-baths. The case may be noted as a typical one both of "hystero-epilepsy," and of the way in which the physician's office is magnified in such disorders by our French *confrères*.—*Med. Times and Gaz.*, Sept. 2, 1882.

Dystocia by Transverse Occlusion of the Uterus.—The following rare case is reported in *Le Praticien*. The woman, thirty-nine years of age, had borne a child eighteen years ago. When pregnant again after this time she had very severe labor pains, but without any effect. The examination showed a membrane separating the cavity of the uterus from the cervix, which latter was voluminous, and as large as a silver dollar. The posterior cul-de-sac of the vagina was pressed downward, which indicated a sac-like dilatation of the posterior segment of the uterus. The membrane was cut with scissors, but the cavity of the uterus could not be entered. The woman died three hours afterward. The autopsy showed a placenta prævia, the child already putrefied. The cavity of the uterus was separated from the cervix by a membrane, in a transverse direction, and three centimetres long.—*Chicago Medical Journal and Examiner*, August, 1882.

Oil of Eucalyptus in Midwifery Practice.—Dr. Samuel Sloan, Obstetric Physician to the Glasgow Maternity, recommends the use of the oil of eucalyptus in midwifery practice. He has found it to possess, as an antiseptic, the following advantages: 1. It is non-poisonous. 2. In the quantity and strength required it is unirritating. 3. It does not coagulate the lochia, which, by separating the lips of the vulva, can be seen to flow out in a liquid stream. 4. Its odor is, with rare exceptions, a pleasant one. 5. It seems to act as a uterine stimulant, causing and assisting to maintain uterine contraction. Formed into a pessary of a suitable shape and size it is easily applied to the neighborhood of the os, and retained there. To secure this, the pessary must be broad and short, must melt slowly but completely, and must contain a large percentage of the antiseptic oil. These requisites he has found the following formula to supply: Oil of eucalyptus, six drachms; white wax, four drachms; cocoa butter, four drachms; mix and divide into twelve pessaries. One of these must be applied night and morning immediately after the usual sponging, and, though the napkins are frequently changed, the odor will be quite perceptible on the one removed prior to the next sponging, twelve hours later. In cases of miscarriage, or when the lochia has diminished materially in quantity—say, six days after confinement—he has found the above strength produce irritation, and the following will then be found preferable: Oil of eucalyptus, four drachms; white wax, one hundred and sixty grains; cocoa butter, four drachms; divide this mixture into twelve pessaries, and label them No. 2. These may also be used at first night and morning, and afterwards at night only. These pessaries are made by first melting together the wax and cocoa butter in a vessel resting in hot water; the oil of eucalyptus is then mixed with this, and the fluid poured into the ordinary two-drachm pessary mould, each cavity being somewhat more than half filled. He has never been able to satisfy himself that the eucalyptus was absorbed into the system to any material extent. This is probable, however, and, in one case, seemed to be proved. This was a case of severely ruptured perineum, which was stitched and united throughout. The pessaries had been continued for sixteen days, when an erythematous rash appeared over the whole body, disappearing immediately on the cessation of the eucalyptic treatment. Though uncertain as to the fact of a material absorption of the oil into the system, he is persuaded that the oil does not remain at the os, but freely passes into the cavity of the uterus. For it is admitted that the uterus for several days after labor is naturally in an alternate state of contraction and relaxation, and whilst during contraction it will empty itself, during relaxation again whatever is lying at the os or upper part of the vagina will be sucked into the vacuum produced. The eucalyptus will therefore find its way quite into the uterine cavity. When he said that, with rare exceptions, the odor is agreeable, he referred to a decomposition of the eucalyptus oil which sometimes takes place, giving the napkin a semi-fetid odor. That this does not arise from a change in the lochia he has proved by simply omitting the next pessary when due; he then found that the lochia was absolutely sweet.—*Lancet*, September 2, 1882.

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SATURDAY, SEPTEMBER 30, 1882.

THE MEDICAL DIPLOMA SCANDAL.

THE original medical colleges, which have been organized to supply a real want, alone have a right to existence. After the needs of the country have been satisfied, colleges go on organizing, not in obedience to any legitimate requirement, but merely to satisfy the ambition of professorial aspirants. Thus, for example, taking a certain area of country, which has Louisville for its geographical centre, we have in Cincinnati three regular medical schools, in Columbus two, in Cleveland two or three, in Toledo one preparing for business, in Fort Wayne two, in Indianapolis two, in St. Louis four, in Chicago four, in Louisville four, in Evansville one or two, in Nashville two or three, in Memphis one or two, and in Pittsburg the preparations are making for one. It cannot be pretended that such an array of medical schools is justified in any need of the medical profession. One each in Cincinnati, Louisville, Chicago, and St. Louis, would amply supply every demand. In the smaller cities, the lack of a suitable clinical field, and of other facilities for teaching medicine and surgery, should operate to correct the ambition of medical college makers.

There is, however, usually in these smaller cities one leading doctor who organizes a faculty from the material of the town, or of the neighborhood, an old warehouse is converted into a college building, and clinics chiefly surgical, and made up of the patients of the surgeon, are commenced, with the intention to advertise the great man as their real object. When one medical school is organized, a second must follow. A faculty created from the adherents of one or two great men, does not provide for the remaining "medical talent" of the town, and hence great dissatisfaction is felt. Very soon a new organization is arranged, and the "just claims to recognition" of the hitherto-unrecognized professors are suitably acknowledged. In some instances the city or town having but two or three sufficiently eminent men for the practical chairs, an anatomist, or physiologist, or professor of some other scientific department, is summoned from some distant city. Then the pretence for organizing a new college, is the recognition of "home talent." What motive soever may be alleged for founding the college, the real intention is to obtain the title of Professor, and the supposed privileges and benefits thereunto belonging. Unfortunately, the title becomes cheap, sometimes actually goes a begging in the smaller cities with three or more colleges, for presently the distinction consists in not being a *professor*. Indeed we know of one city, where it is usual in the eulogistic funeral discourses, to say of the eminent deceased, he had been frequently importuned to accept this or that chair in the medical colleges, but had invariably declined.

Amongst the newly-made professors, dissensions are apt to arise. The one great man of the school must be deferred to, and the professors must vie with each other in their efforts to enhance his glory.

Then, again, the great men suppose that they must rise or fall with the fortunes of their institutions; when they are surrounded by medical schools, having an equally energetic purpose to live and flourish, the nature of the struggle can be readily understood. We learn of shifts to make students, of personal solicitations to induce students to enter the school, of honors promised to practitioners to secure their influence over expecting and actual students, and of other practices that touch, it seems to us, on the lowest point of professional degradation. In this heartless struggle, without any principle, the professors, we doubt not, try to do their duty with the inefficient and inadequate means in their hands. As is usual, when they learn of the evil methods by which their school is kept up, some one rebels, and then discussion and disruption follow.

The present scene of conflict is the Columbus Medical College. The history of the existing medical convulsion will serve to illustrate the nature of the others. If the present case did not involve some questions of high importance to the medical profession, we would be little disposed to give it prominence by recognition and discussion.

In the present controversy we learn from the pamphlets that have been published that Dr. Baldwin, then a professor in the school, opposed the

conferring by the Columbus Medical College of the degree of M.D. on a man who was graduated in a month after he matriculated, and whose antecedents were of an unsavory character. Dr. Baldwin united with Dr. Reeves, of West Virginia, in the exposure of these iniquitous practices. Dr. Hamilton, of the Columbus School, denounces Dr. Baldwin for his share in these laudable attempts to correct flagrant abuses. Every right-minded member of the medical profession looks on such exhibitions with unfeigned regret. Divested of all extraneous questions, such is the status of this controversy, and although there have been ample time and opportunity, we regret to say that the authorities of the Columbus Medical College have failed to offer any satisfactory explanation of their action in the case under discussion, and the profession is therefore able to reach but one conclusion.

PECULIAR PARALYSIS OF THE BRACHIAL PLEXUS.

IN 1874 Erb communicated to the Congress of Naturalists assembled at Heidbelberg, the details of four cases in which a peculiar paralysis of the brachial plexus had occurred. The peculiarities consisted in the distribution of the paralysis, and the localization of the lesion. Muscles innervated by very different branches of the plexus were simultaneously affected. The muscles paralyzed were the deltoid, the biceps, the coraco-brachialis, and the supinator longus, which are innervated by filaments from the circumflex, the musculo-cutaneous, and the musculo-spiral. E. Remak, some time afterward, submitted a precisely similar case to the Berlin Medical Society, and recently Hoedemaker has published several new observations. To these German examples are now added two French cases published by Lannois.

The paralysis has usually come on after exposure to cold, and corresponds closely in its etiologic relations to some kinds of facial paralysis. The localization of the paralysis is the point of difficulty. Erb found that there is a place in the brachial plexus near the scaleni where the motor filaments above referred to, unite. In subjects properly trained, the necessary dexterity having been acquired by practice, these filaments may be excited by a fine electrode at a point between the two heads of the scaleni, where the fifth and sixth nerves emerge, causing movements of the deltoid, biceps, coraco-brachialis, and supinators only. Remak, in his case, placed an electrode at the outer border of the transverse process of the sixth cervical vertebra, on the healthy side, and caused, with a mild current, a contraction of the supinator longus, and with a stronger current, a simultaneous contraction of the deltoid, biceps, and coraco-brachialis in addition. An application of the same current strength, on the paralyzed side, caused no movement. The electrical condition of the paralyzed muscles has been the same in all the cases—that is, the electro-contractility is lost.

In Lannois' cases, the most recent thus far reported, the same peculiar localization of the paralysis was observed, and the electro-contractility was also lost.

We may conclude, therefore, that this peculiar malady is a peripheral paralysis—a neuritis probably, of the fifth and sixth cervical nerves which unite with others to form the cervical plexus. The condition, in the cases of long standing, has not been modified by treatment, but the more recent examples have been less intractable and have improved under suitable galvanic treatment.

MISSIONARY PHYSICIANS.

We have recently received several publications relating to medical missions, which have interested us not a little.

Few persons now living can recall the beginning of the missionary enterprise in this country, at least, but the sending of medical missionaries is a matter of quite recent date. At least, so we thought until we were astonished to learn that the illustrious John Abercrombie founded the "Edinburgh Medical Missionary Society" so long ago as 1841. The rewards of successful practice are such that it seems strange at the first blush that any physician should leave bright prospects behind him, and banish himself voluntarily to Asian or African heathenism. That clergymen should do so seems but a natural outgrowth of their profession. But love to God, and the "enthusiasm of humanity" have led no less than one hundred missionary physicians to devote themselves to this self-denying work. These men, at least, cannot be accused of utilizing their kindness as a part of their "stock in trade."

The medical missionary has opened the door more than once to the preacher. Hearts that were closed to all intellectual appeals, became responsive to the glad tidings when brought to them by the physician. Indeed, it is but renewing the lesson of the Judean hills and valleys, for well-nigh all the recorded miracles were miracles of bodily healing. Moreover, it is but just that civilized nations should atone, in some small measure, for the ills they have inflicted on heathendom. Syphilis and whiskey are twin evils which—to our shame, be it said—most surely follow in the wake of our mercantile marine, and to these in China, at least, the curse of British opium must be added.

Such men have done more than merely practise medicine and act as missionaries. True, they have done this, and to no little extent. A neccessary part of their work is the dispensary and the hos-

pital. At Travancore Dr. Thompson reports twenty-five thousand patients in a year, and at Swatow, drawn from twelve hundred and twenty-one surrounding villages, Dr. Lyall has had as high as three hundred and fourteen in a day, his lowest number being forty-six.

But they have added also to our knowledge of the art and the science of medicine, to pathology, etiology, medical geography, materia medica, botany, geography, ethnology, and kindred sciences. Not to allude to older contributions, the late report of Dr. Turner, in the *Glasgow Medical Journal*, on one hundred and thirty-six operations for elephantiasis within seven years, not rarely three or four operations being done in one day, and with a result of only two deaths, is a noteworthy contribution to operative surgery, from Samoa. Dr. Berry, in Japan, is not only doing a vast work in practice and in teaching large numbers of native physicians, but is also attempting to work out the problem of the hygienic treatment of leprosy, and, with the assistance of the government, bids fair at least to limit and ameliorate, if not to extirpate, this loathsome disease. Dr. Palm, also in Japan, has entered upon a work of extreme importance in a nation so progressive yet so barbarous in their obstetric medicine. Under the auspices of the Edinburgh Society he has established a Nurse Training School with Miss Shaw, one of the "Nightingale probationers," from St. Thomas' Hospital, as his head nurse. A movement in this country, a few years ago, to establish such a training school in Japan unfortunately failed for want of due support. But the especial fitness of women for medical missionary work has been more largely appreciated in this country than in any other. Besides numerous women physicians already in the East, the earliest of whom were sent by American Methodists, there were last winter at the Woman's Hospital in this city eight women preparing to go as medical missionaries. Heathen women need such help even more than men, for they are excluded from the help of male physicians, and are victims of the profoundest superstition, ignorance, and cruelty.

All of this work, it must be remembered, is done practically alone. Help there is none within hundreds and sometimes even thousands of miles. We confess that to tackle an eighty pound tumor of the scrotum, with not a single trained assistant to give the ether, or to assist in controlling the hemorrhage, in the sponging, and the mechanical details, would not be entirely attractive. Yet Dr. Turner not only did it, but finished the operation in twelve minutes, and with results as flattering to his good judgment as to his operative dexterity. Indeed, the Edinburgh Society, of whose pupils he is one, only encourages young men of more than the average promise, and urges upon them the importance of acquiring a thorough education. Only men of the highest attainments, as well as the most unselfish devotion, are fitted for the work. This is in accordance with what might be supposed when we look at the names of the men at the head of the enterprise; Abercrombie, Simpson, Scoresby-Jackson, Spence, and Handyside, among the dead; and Grainger Stewart, William Turner, Alexander Simpson, Crum Brown, Patrick Heron Watson, Underhill, and Joseph Bell, among the living, represent the best talent of Edinburgh. The society keeps up a training school and dispensary, aids young men whose means are cramped, and also establishes hospitals and dispensaries abroad wherever most needed, It is entirely undenominational and assists all churches. It issues a neat "quarterly paper" at one shilling a year, in which all the latest medico-missionary news are published.

Any of our readers who desire to obtain further information as to its work, or to subscribe to its valuable paper, can do so by writing to Rev. John Lowe, F.R.C.S.E., 56 George Square, Edinburgh. Its extensive work demands large outlay, and we join with our British *confrères* in commending it heartily to the generosity of those interested in its objects. It graduates five students this year, but the appeals are triple the number of men ready to go.

SOME FUNCTIONAL VISUAL TROUBLES DUE TO CEREBRAL LESIONS.

GRAEFE maintained the view, which still prevails in Germany, that the only disorder of vision due to a mere cerebral lesion is hemianopsy—or loss of half of the visual field. This opinion is based on the semi-decussation of the optic nerve fibres in the chiasm. Charcot, however, demonstrated from clinical facts that a cerebral lesion may cause a sensory hemianæsthesia, accompanied by a sensorial anæsthesia with amblyopia, and that in cases of hysterical hemianæsthesia there may exist an unilateral functional disorder of the brain. At the time when Charcot maintained the existence of a crossed amblyopia as a consequence of a single lesion of the hemisphere, without any lesion of the corresponding optic bands, there had been no anatomical facts to disprove his assumption. Clinical observation, and the facts of pathological anatomy, are necessary to settle the question. Féré has collected seventy-four observations with which to examine the relation of the visual disturbances to cerebral lesions. His conclusions are embraced in the propositions given below:

The only visual disorder, heretofore observed in the hysterical cases of hemianæsthesia, is amblyopia with concentric narrowing of the visual field on

the same side as the disorders of cutaneous sensibility. In certain subjects of cerebral disease, as in the hysterical, the hemianæsthesia may be replaced by a hemidysæsthesia, accompanied by the same visual disorders. In subjects affected with such cerebral diseases as aphasia, hemiplegia, hemichorea, hemianæsthesia, etc., loss of half the visual field, or hemianopsia, is quite often encountered. Amblyopia of cerebral origin accompanies the disorders of cutaneous sensibility, whether of little, or of considerable extent. The anæsthesia or dysæsthesia may be limited to the tissues of the eye.

Cerebral amblyopia may present almost the same symptomatic relations as the hemianopsy. Nevertheless, although pure hemianopsy is frequently associated with aphasia, amblyopia is rarely thus connected, but is found in association with ordinary disorders of sensibility. Cerebral lesions may exist with a disorder of vision resulting from the combination of concentric narrowing of the visual field, and hemianopsy. This affection, which always accompanies other troubles of sensibility, appears to be determined by a lesion situated on the opposite side toward the sensory centre, in the optic tract, the tubercula quadrigemina, or the efferent fibres.

CREMATION.

The time is rapidly approaching when the problem of the disposal of the dead of our large cities must find some other solution than the cemetery. That cemeteries are noxious to health, and especially when they are on the banks of streams which furnish the water supply of the city, is a point that needs no argument. The advocates of cremation seemed at first more like enthusiasts with a "fad" in their heads; but as time has passed on, it would seem that they are slowly, but surely, winning at least a hearing, and after a time we believe they will win the day—and justly.

From the hygienic point of view, cremation is plainly the best way of disposing of the dead, and, as now conducted, it is done decorously, quickly, and cheaply. The *Pall Mall Gazette* states that in Milan two bodies can be cremated in an hour, the cost being from three to five dollars. The Siemens furnace at Dresden, which cost only $250, is still more quick in its action. There are several furnaces in France, in which the time of incineration ranges from one hour to two, and the cost from four to five dollars. The Kuborn apparatus is intended for the battle-field, and reduces twelve bodies at once in an hour and a half to an indistinguishable mass of gray ashes, so that a dozen of them could dispose of more than 2500 bodies in twenty-four hours. Prof. Gorini, of Lodi, professes completely to destroy a body in twenty minutes by immersing it in a hot solution believed to be chiefly chromic acid.

There are practically but two arguments against it. Sentiment, at least with the general public, is the chief one, and although that will long hold its own, especially while in this country the want of proper facilities makes cremation difficult, yet in the end it must yield. Health must be the first consideration, and the dead must yield to the living.

The other is a more serious one from a professional point of view, for cremation may easily destroy the evidences of poison. But exhumation has won few laurels in our courts of justice, so that we shall lose but little by the proposed change. Moreover, not a few mineral poisons can be readily detected in the ashes, which deprives the argument of at least a part of its force. In spite of its disadvantages, we believe that cremation is by far the best mode of disposal of the dead.

Why will not some enterprising cremationist set up a Siemens furnace in or near one of our large cities? The pecuniary risk would be small, and we have little doubt that, were cremation made easy, practicable, and cheap, it would be resorted to with increasing frequency, and far more than reimburse its proprietor.

ALBUMINURIA IN CONSUMPTION.

In a certain proportion of the cases of consumption, about six per cent., albuminuria appears as a complication. The importance of this symptom varies with the condition of the kidneys. In the simplest form, it is a mere temporary congestion; but a congestion due to blocking of the pulmonary vessels may after a time set up permanent changes in the renal structures. When permanent from the onset of the symptom, it may be a dyscrasic malady, due to tuberculosis of the kidney, or it may be produced by amyloid degeneration, which is a frequent complication of the suppurating processes of tuberculosis, the kidney being one of the organs attacked.

It is a fact of much interest that when albuminuria occurs, the fever process and the sweating cease, and thus an illusive appearance of improvement is induced. A subnormal temperature has been observed in some cases. When therefore, in phthisis, the usual daily febrile movement does not come on, the urine should be examined. It need hardly be observed that the prognosis will be distinctly affected by the discovery of a permanent albuminuria. When the quantity of albumen present in the urine is large, and the temperature even slightly subnormal, a rapid decline in strength and an early termination may be expected.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF VIRGINIA.

Thirteenth Annual Session, held at Fauquier White Sulphur Springs, September 13, 14, and 15, 1882.

(Specially reported for THE MEDICAL NEWS.)

(*Concluded from p. 361.*)

SEPTEMBER 14TH, SECOND DAY.—MORNING SESSION.

AFTER the reading of the minutes, which were approved, the vote was called for on the following resolution,

CONCERNING THE ELECTION OF OFFICERS,

presented yesterday by Dr. Joseph A. White, of Richmond:

"*Resolved*, That the officers be elected on the second day of each annual meeting; that they shall be chosen exclusively from among those attending the session, and that the President-elect shall make his appointments for the ensuing year before the session closes."

After a lengthy discussion, this resolution was laid on the table.

The committee apointed to express the sense of the Society in reference to the

NEW YORK CODE,

reported the following resolutions, which were unanimously adopted:

Resolved, That this Society views with concern and deep regret the action of so influential a body as the Medical Society of the State of New York at its last annual meeting, whereby an attempt is made to break down the barriers so wisely erected by the Code of Ethics adopted by the American Medical Association and subscribed to by this Society, between the practitioners of the science of medicine and quacks and charlatans, and desires to express in the most emphatic terms its disapproval and condemnation of that action.

Resolved, That we consider the Code of Ethics of the American Medical Association as the best guide we possess for the conduct of medical practitioners, and hereby reaffirm our adherence to it, and deprecate any change unless it shall be made by the American Medical Association, which body we regard as the representative of scientific medicine in this country.

Resolved, That we approve the action of the American Medical Association, whereby it refused to receive the delegates of the New York State Medical Society.

DR. JOSEPH A. WHITE, of Richmond, was then requested to present the

REPORT ON ADVANCES IN OPHTHALMOLOGY, OTOLOGY, AND LARYNGOLOGY.

He first considered the most recent advances as to the *histology* of the eye. Contrary to preconceived ideas, the cornea draws its nourishment from the scleral vessels, and discharges its waste products into the anterior chamber. He noted the pathology of sympathetic eye disease and the modes of its transmission into glaucoma, and the method of relief for its different forms, and the connection between intra-cranial disease and optic neuritis. He remarked upon the alarming increase of refractive troubles—especially myopia—in school children, as a subject of great importance. He referred to some necessary legislation regarding the appointment of color-blind engineers, pilots, etc.

Mydriatics were then taken up. For many years *atropia* has been the sheet-anchor of the oculist. Its chief danger consists in its use in glaucoma and in troubles secondary thereto. *Duboisia* does not dilate the pupil for nearly so long, and cases of glaucomatous symptoms following its use have been reported. In some persons it produces a species of intoxication. Its advantage is that it may be used where there is an idiosyncrasy regarding atropia. He has also used *sulphate of hyoscyamine* and *hydrobromate of homatropine*, especially in refractive troubles, and for ophthalmoscopic diagnosis.

Hyoscyamine (½ per cent. solution) paralyzes accommodation very quickly, and its effects pass off sooner than atropia or duboisia, yet it sometimes produces giddiness and a moderate intoxication. Homatropine is more evanescent in its effects upon accommodation. Thus far, he has seen no report of glaucomatous trouble following the use of either hyoscyamine or homatropine.

Myotics.—Formerly, calabar bean was the only one used. Now we have eserine and pilocarpine. *Eserine* acts more powerfully than pilocarpine. It is used locally in *acute* glaucoma, serpiginous ulcers of the cornea, serous iritis, episcleritis, etc.

Pilocarpine is used both locally and internally because of its stimulant and absorbent properties. All solutions of these drugs are best preserved by first boiling the solution, and then adding carbolic acid in the proportion of one-half grain to the fluidounce.

Iodoform is especially applicable to granular ophthalmia, trachomatous pannus, interstitial keratitis, etc. It has also been used in conjunctival tuberculosis, hypopyon, keratitis, and seems to diminish the purulent secretions.

Boracic acid is used in slight conjunctivitis, in the strength of one to four grains to the ounce of water. He cautioned his hearers against the common use of such astringents as nitrate of silver, lead solutions, etc.

The use of *antiseptics* he considered very troublesome and needless in the after-treatment of cataract. He advised the careful cleansing of the operating instruments and the operator's hands in alcohol.

Optico-ciliary neurotomy was then reviewed in brief. Dr. White insisted that if sensibility in the eyeball returns after the operation, then the eye must be taken out. In this connection he related the history of a case which was somewhat peculiar because of the amount of hemorrhage which followed the operation and continued for some time thereafter.

Turning his attention to *Otology*, he first spoke of *purulent diseases of the ear*. The best treatment is an antiseptic, combined or not with a mild astringent. Boracic acid with zinc oxide or alum forms a good local application; alum, however, is apt to increase the discharge if there is caries. Then apply a bit of absorbent cotton to exclude air, and keep the parts dry.

When *polypi* are present, alcohol, with or without boracic acid dissolved in it, makes the best application where an operation is not undertaken.

The intimate relationship of ear and throat troubles was remarked upon, and the importance of familiarity with the use of the rhinoscope, laryngoscope, etc., was impressed.

The paper was ordered to be published.

DISCUSSION.

In response to an invitation, DR. JOHN N. MACKENZIE, of Baltimore, Fraternal Delegate from the Medical and Chirurgical Faculty of Maryland, in referring to the report presented by Dr. White, said that the great difference of opinion which prevailed in regard to the cure of *throat consumption* arose from the confusion of two distinct forms of ulceration which are met with in the larynx of the consumptive. The classification into catarrhal and tubercular phthisis held here as in the lungs; and by making such a division, order would be restored to the conflicting opinions of authorities, and

a standpoint would be secured for a scientific solution of the various problems which the subject presented, and a guide to prognosis afforded of considerable value to the practical physician. The chronic ulcerative laryngitis of the tubercular patient differed from simple chronic laryngitis in its extreme chronicity, its tendency to relapse, and the frequent occurrence of ulceration which showed no disposition to cicatrize, and, which, if neglected, would eventuate in laryngeal phthisis, although proof of its culmination in tuberculosis was wanting. He believed that the vast majority of reported cases of so-called laryngeal tuberculosis could be referred to the category of catarrhal inflammations. The plan of treating this variety of laryngeal phthisis by thorough local cleansing and disinfection, followed by the direct application of iodoform and morphia to the ulcerated areas, had met with success in his hands; and he considered this method of grappling with the disease as one of the greatest advances which had been made in the control of this troublesome disease. The second form of ulceration—the true tubercular—was much more difficult to deal with; but the fact that pulmonary consumption was curable, the well-known cicatrization of the local lesions of tuberculosis of other organs, as the intestines, and the excellent results which had followed incisions and drainage of pulmonary cavities, would lead, *à priori*, to the possibility of similar success in the treatment of laryngeal phthisis. The laryngeal ulcer is the pathological analogue of the cavity in the lung, and it, therefore, seemed rational to assume, that what was true of the latter, would be equally applicable to the former, especially as in this case local treatment would be more effectually carried out. Dr. M. recommended the constant inhalation of medicated vapors as an adjunct to the treatment, and described the methods in general use. He also spoke of a device which he was in the habit of using—namely, the substitution of cotton pellets in the nose for the cumbersome respirators sold in the shops.

Passing then to the subject of *nasal catarrh*, Dr. Mackenzie warmly advocated its treatment by surgical methods, especially the removal of the hypertrophied tissues covering the turbinated bones, the excision of the pharyngeal, and, if necessary, the faucial tonsils, and he related cases in support of operative interference. As a substitute for surgical operations for the straightening, perforation, or fracture of the deflected septum, Dr. Mackenzie suggested the removal of one or more of the turbinated bones. He concluded his remarks by cordially thanking the society for its courteous invitation, and for the attention with which the members had listened to his crude ideas.

DR. WM. L. ROBINSON, of Danville, reported

A CASE OF EAR TROUBLE RELIEVED BY ELECTRICITY,

which elicited an interesting but very latitudinous discussion by several members.

THE EARLY DIAGNOSIS OF PHTHISIS PULMONALIS

was the title of a "volunteer paper" by PROF. M. L. JAMES, of the Medical College of Virginia, Richmond. He introduced his paper by referring to the fact, that four years ago he had presented a paper before the Society with the title, "The Question of the Curability of Consumption and its Treatment." In that paper he had shown from the opinions of eminent lights in medicine, from the facts of pathological anatomy and from his own experience that many cases of consumption were curable. He stated that in his own experience, however, the cases of cure were limited to two, after the disease had progressed to the establishment of cavities; the cavities in the two cases having been small ones, but that as many as twenty-three cases in his private practice, and of which he had kept careful records, had yielded to the force of remedies in earlier stages. Admitting that he was right in his opinions, Dr. James regarded the question of its early diagnosis as one of the weightiest in Medicine. He conceded that it was not always an easy diagnosis, but for that reason was the more important.

With a brief reference to the pathology of the disease, in which he said the weight of authority established the fact that there was at least a close alliance between true tuberculosis, and those chronic inflammations of the lungs which marked the earlier stages of pulmonary consumption, he proceeded to a review of the symptoms and physical signs which marked the earlier stages, in which he claimed that, while there was much of difference in the violence of the symptoms in different cases of the disease, from those overwhelming invasions which destroyed life in a few weeks, to such as were so feeble in their destructive force as to require years for the termination of their mortal work; still in all cases there was distinct evidence of profound constitutional disturbance, and it was practically important to recognize such variations. He laid much stress upon the presence of fever, which he said applied to all of the cases under his observation at some stages of the disease, though he said that so eminent an authority as Williams had said, that in a few cases it was absent, and sometimes the temperature was sub-normal. He said, however, that in this disease, more than in any other that he had observed attended by febrile phenomena, the exacerbations of the fever were variable, sometimes scarcely departing from the types of the intermittent and remittent forms of malarial fever, while in other cases it would sometimes be absent for several days, or occurring during the day in considerable elevation for so short a period as a half-hour. His description of the type of the fever was variability. He said that the proper recognition of the fever of phthisis could only be made by the thermometer, the surface temperature of the hands and face being entirely fallacious. He thought that every suspected case should be provided with a thermometer and the temperature taken several times in the twenty-four hours, and oftener than the physician in private practice could make observations himself.

He then proceeded to analyze the value of the several symptoms, referring to the presence of the *bacilli*, which Koch claimed would be found in the sputa in the suppurative stages, concluding that unless that could be accepted as established, there was no one pathagnomonic symptom or sign, and that that even was delayed beyond the stage when remedial measures were usually efficacious; but that there was in all cases such an assemblage of symptoms and signs as would justify a positively decisive diagnosis. These he believed to be an impairment of general health, varying much, but always profound, attended with more or less acceleration of the pulse, and febrile exacerbation, and emaciation, with physical signs, first indicating pulmonary congestion, and then consolidation, more or less circumscribed and complete, with at least occasional crepitant, subcrepitant or mucous râles, also more or less circumscribed; impaired expansibility of the lungs; all of which symptoms and signs have been more or less gradually developed, and which have existed for a period longer than two weeks, and have been anticipated by prodromic symptoms of greater or less marked distinctness.

The Committee on Nominations of

OFFICERS FOR THE ENSUING YEAR

presented the following nominations, each of which was confirmed by the Society:

Vice-Presidents: DRS. MEADE C. KEMPER, of Goshen; O. H. BAIRD, of Waverly; JOSEPH A. WHITE,

of Richmond; J. S. APPERSON, of Town House; GEO. B. JENNINGS, of Ruckersville, and J. W. DILLARD, of Lynchburg.

Recording Secretary and Treasurer, DR. LANDON B. EDWARDS, of Richmond.

Corresponding Secretary, DR. HUGH M. TAYLOR, of Richmond.

Chairman of Committee on Nominations, DR. LEWIS WHEAT, of Richmond.

The members of the Executive and Publication Committees, the same as last year.

ELECTION OF PRESIDENT

by ballot, resulted in favor of DR. WM. D. COOPER, of Morrisville, Fauquier County, Va. The retiring president, DR. G. WM. SEMPLE, was elected an

HONORARY FELLOW

of the Society.

Rockbridge Alum Springs, Va., was selected as the

PLACE FOR THE NEXT ANNUAL SESSION.

Time of meeting, either the last week in August or the first week in September, 1883.

AFTERNOON SESSION.

PATHOLOGY AND TREATMENT OF INFANTILE PNEUMONIA,

by DR. BEDFORD BROWN, of Alexandria, was the title of the first paper read, of which the following is an abstract. The lobar and catarrhal forms of pneumonia are the most frequent in infants under a half year of age. The râle of lobar pneumonia is rather coarser and more on the subcrepitant order, with less complete dulness on percussion than in adult pneumonia. Catarrhal pneumonia is the most common form in infants, as well as the most dangerous. The rapid secretion of mucus cuts off proper inhalation, and thus cyanosis occurs. He has seen cases threatened with fatal suffocation in twelve hours. The accumulation of carbonic acid in the blood produces a narcosis that reminds one of opium poisoning. The tendency of this carbonic acid poisoning is also to suppress cough.

The rate of respiration in infantile pneumonia is probably higher than in any other disease—even up to 100 per minute. The *character* of the respiration is therefore very short and quick, and the inhalations enter only a small portion of the air-cells. In the baby with extensive catarrhal pneumonia, the walls around the bases of the lungs do not expand normally, but the muscles of the apex of the chest and those of the back and neck are thrown into extraordinary activity.

The character of the cough.—In proportion to the extent and gravity of the lung disease the cough diminishes in frequency and force, and thus declines to aid expectoration. Such a condition needs artificial stimulation of the function of coughing. The agents used are antiseptic; they disinfect the accumulated matter in the bronchial tubes, and excite these tubes to action, and hence the expulsion of the offending cause. Dr. Brown uses, by spray apparatus, three or more times a day, this solution:

℞.—Alcohol,	℥j.
Water,	℥ij.
Carbolic acid,	℈ss.
Bicarbonate of sodium,	℥j.
Salicylic acid,	℥j.
Chloral hydrate,	℈ss.—M.

The atmosphere surrounding the head and chest as well should be charged with the spray whenever necessary to excite cough and expectoration. This has always, in his experience, excited cough and expectoration, with improvement in the breathing and complexion—at least for the time being, and in some cases he is sure he has thereby saved life.

Character and rate of pulse.—In bad cases the pulse runs up to 200, or even 225 per minute. These high figures of pulse and respiration are never reached in the adult. With this rapid and feeble pulse, each cardiac diastole is so brief and imperfect that very few drops of venous blood are received in the right side of the heart with each pulsation. Hence the tendency of the blood to accumulate in the venous system, producing cyanosis by carbonic acid poisoning, and narcosis, and other consequent effects. And yet patients have recovered even with a pulse of 200.

Treatment.—Digitalis is the best agent to slow the excitable and feeble heart in infantile pneumonia. It is not as rapid and dangerous as veratrum and aconite, but is just as efficient. Belladonna is a valuable adjuvant to the digitalis. It soothes the irritable condition of the sympathetic system. It also curtails superabundant secretion. This is markedly so in cases of catarrhal pneumonia; but belladonna does not suppress cough. The mild preparations of ammonia are particularly valuable in liquefying viscid mucus and hastening its expulsion. The wine of ipecac should never be dispensed with. It is a potent promoter of expectoration. Ipecac exerts an extended influence over the entire sympathetic and vaso-motor systems, and controls hemorrhage and regulates secretion. The combination of soda, potash, or ammonia with ipecac—especially with ammonia—constitutes the very best means of assisting the bronchial tubes to expel their contents. Opium, when moist râles are abundant, is inadmissible. In the use of opium we must be guided by the extent of tissue invaded. If extensive, opium must be discarded. Bromides are especially valuable applications for quieting nervous restlessness and for procuring sleep in the class of cases discussed. In lobar pneumonia, when the muco-fibrinous secretion is very tenacious, the iodides of potash and ammonium, spirits of ammonia, and ipecac are very serviceable.

DR. J. E. CHANCELLOR, of Charlottesville, reported in brief a case which endorsed the views expressed by Dr. Brown.

The *Ex-presidents* of the Society offered

PRIZES

of $50 for the best surgical essay prepared by any member, and $50 for the best medical essay.

The subject selected for the surgical prize was

RECENT PROGRESS IN ABDOMINAL SURGERY.

We make a synopsis of the essay which received this prize, presented by DR. HUGH M. TAYLOR, of Richmond, Va. His report embraced a review of the recent advances in ovariotomy, Battey's operation; extirpation of the uterus, spleen, and kidney; resection of the stomach, bladder, and intestines; operations for pelvic and abdominal tumors and abscesses; and last, but by no means least in importance, the writer thought, operative interference in intussusception, occlusion, and cancer of the intestines, and in gunshot and other wounds of the abdomen and abdominal viscera. Prominent among many who have contributed to the advance of abdominal surgery are mentioned, Tait, Thornton, Billroth, Keith, Wells, Sims, and Thomas. In ovariotomy we find the greatest triumphs in abdominal surgery, and to its successes and teaching is due the present activity in all peritoneal surgery. The writings of Keith, Tait, and Billroth, tend to disprove the value of Listerism in peritoneal surgery, while those of Wells, Thornton, Schroeder, and others of equal eminence, carry great weight in favor of its use. While not an advocate of Listerism, the writer was forced to recognize it as one of the open questions in surgery. The triad of Keith—care, cleanliness, and drainage, is, in the opinion of the writer, the embodiment of antiseptic abdominal sur-

gery. A wide distinction is drawn between Listerism and antiseptic surgery. The opinion that all good surgery is antiseptic surgery is concurred in. The writer reports two cases of ovariotomy, in which the value of drainage was clearly illustrated. The first was a suppurating dermoid cyst, which was so firmly attached to the right iliac fossa, that a large part of its base had to be left *in situ*. It presented a honeycombed, suppurating mass and suggested a hopeless prognosis. In spite of the unfavorable outlook, the patient recovered from the operation and went about the house for six or eight months. The unexpected prolongation of life was due to the fact that nature established two outlets for the pus, one along the pedicle and one into some part of the intestinal canal. The second case was an extensively adherent multilocular cyst, and the traumatic injury done in separating them warned the operators to provide for removal of the inflammatory products. This was accomplished by passing a tube through Douglas's cul-du-sac. For the first five or six days, about a pint of bloody serum was drained through the tube each day; the patient continued, however, to do well until by accident the tube was pulled out. Immediately before this accident the prognosis was favorable. Immediately afterwards the temperature and pulse went up and the patient showed the distended belly, restless delirium, anxious expression, vomiting, hiccup, and all of the symptoms which note the beginning of the end. Drainage, the writer thinks, is indicated whenever any raw surface is left in the peritoneal cavity, as no one can foretell the amount of inflammatory products which circumstances unfavorable to repair may make the most trivial wound discharge. The danger incident to the use of carbolic acid in peritoneal surgery was referred to, and a plea for the substitution of chloral entered. The writer has seen carbolic acid used in peritoneal surgery and a solution of chloral used in the same class of cases, but has failed to appreciate any of the advantages claimed for the former. Chloral, he thinks, provokes and facilitates cicatrization and granulation, opposes the formation and degeneration of pus, and neutralizes or limits the morbific action of all septic poisons. The writer recognizes a field for Battey's operation, but thinks the full limits of its application have not been definitely settled. He has witnessed the effects of this operation by abdominal section in three cases, and while all of them recovered from the operation, the impression has been left that the operation is not free from the dangers common to abdominal surgery.

Nephrectomy, nephrotomy, and nephrolithotomy, and the conditions which call for these operations, are reviewed at length. One case of pyonephrosis successfully treated by nephrotomy is reported. The case occurred in a young man whose family history showed a marked tendency to nephritic troubles. His father was at the time insane from Bright's disease, and his mother was an imbecile from the same cause, while a brother and the patient himself had been operated upon for stone in the bladder. The pyonephrosis was treated by lumbar section, drainage-tubes, and antiseptic washes. The writer thinks, from a study of the literature upon the subject, that extirpation of the uterus for cancer is entitled to the earnest consideration of even the most conservative surgeon; but until there is unity of opinion concerning operative interference in cancer, there must be diversity of opinion concerning extirpation of the uterus for this malady. Extirpation of the uterus for uterine myoma, fibroma, fibro-cystic, and other uterine tumors, he thinks is clearly indicated where life is endangered or rendered unbearable. Porro's and Müller's modification of the Cæsarean operation are dwelt upon, and the operation and claims of gastro-elytrotomy, rupture of the uterus, and abdominal, intestinal, and tubal pregnancy also receive due notice in the report. As a last resort, operative interference in perforation and obstruction of the intestine is urged. The exploits of Billroth, Wölfler, and others in this field of operative surgery are fully brought out in the report. Operative interference for the removal of foreign bodies, for rupture of the bowels from falls, blows, wounds—and especially gunshot wounds—is, the writer thinks, strongly indicated whenever a fatal issue is apprehended. He concludes by insisting that in spite of the bright outlook for abdominal surgery, we cannot ignore the fact that the course over which the patient has to run after the surgeon has invaded the peritoneal cavity is beset with many dangers. The conditions conducing to a favorable or fatal issue are so evenly balanced that the most trivial factor may determine the result. No surgeon, he thinks, can have seen much of abdominal surgery without learning to appreciate the importance of little details—moments spent in controlling hemorrhage, in thoroughly cleansing the peritoneal cavity, and in looking to thorough drainage, are golden moments to the patient. The good resulting from such precautions far outweighs the danger incident to prolonging the operation.

MISCELLANEOUS BUSINESS.

After reference of the above essay and the awarding of the prize, on motion of Dr. Benj. Blackford, of Lynchburg, it was

"*Resolved*, That hereafter, the Committee on Nominations of Officers shall be empowered to submit the nomination of a Fellow for President, together with the other annually elective officers of the Society."

Evening Session.—On nomination, Dr. J. E. Chancellor, of Charlottesville, was elected to deliver the

ANNUAL ADDRESS TO THE PUBLIC AND PROFESSION

next year.

ALCOHOL—ITS USE AND EFFECTS AS A BEVERAGE AND MEDICINE,

was the subject for the Ex-presidents' Medical Prize. Dr. John F. Winn, of Richmond, read the first of the medical essays in competition. He gave the history of stimulants as phlogistics and antiphlogistics, passing rapidly from the earliest ages, up to Broussaism, and then to Todd's views. He remarked upon the rapid advance made by the profession since that day, both by clinical experience and physiological experiment, and quoted the resolution adopted by the American Medical Association, in 1878. He estimates the annual amount of spirituous liquors drunk in the United States, to be about 220,000,000 gallons. He next considered the use of alcoholics as beverages. As to the primary action of alcohol, it passes rapidly into the blood, altering the form of the red corpuscles, and causing them to adhere in rolls, and thus destroying their vitality; and by its affinity for water prevents or produces coagulation of the fibrine. Paralysis of the vaso-motor nerves is the next result leading to congestion, which is the first stage of acute alcoholism; the second stage being excitement and exhaustion of the spinal cord, with want of coördination of the muscular system; the third, a stage of unbalanced reasoning and volitional power; and lastly, a stage of complete collapse of nervous power.

With respect to the *food* value of alcohol, he stated at length the views of its advocates as well as of its opponents. It is conceded that the temperature is reduced and the elimination of carbonic acid is diminished, and the weight of authority seems to warrant the assertion that these results are due to the power that alcohol has in delaying metamorphosis of tissue, and that this delay in tissue change is caused by the

oxidation of alcohol into aldehyde and acetic acid at the expense of the oxygen which should be applied to the natural heating of the body. Dr. Winn classified its *secondary* effects into four degrees:

First, the *mechanical* effects, due to arterial relaxation, generally exhibited about the age of 25 or 30, in cardiac hypertrophy and arterial degeneration; in that well-known sclerosis and production of adventitious connective tissue in the various organs of the body.

Second degree is marked by those mental phenomena showing the deleterious influence of alcohol on the cerebral centres, generally indicated by loss of memory and speech.

Third degree marks that stage of insatiable craving for liquor (dipsomania), and those periodic forms of inebriety known as mania-a-potu.

Fourth degree. Here the most solemn fact of these mental and moral obliquities is shown in the progeny of the inebriate, in the form of idiocy, epilepsy, and insanity.

As to its use and effects as a medicine, the therapeutical application of alcohol is so narrowed that it can hardly be called more than a general stimulant. It is not a *direct* cardiac stimulant, but its effects are obtained indirectly through its paralysis of the "organic nervous chain" giving the heart's action increased frequency but "a weakened recoil stroke." Its physiological action does not warrant its employment in the treatment of hemorrhage, unless life is imminently threatened. As a simple antipyretic, it is very inefficient, and should be combined with other antipyretic agents. Its physiological action and clinical experience suggest its use when the heart's action is weak and rapid, the skin and tongue being at the same time dry and harsh. Delirium does not always contra-indicate its use. Congestion or inflammation of the liver or kidneys requires it to be given with great caution. As to dose, the effect produced is the best guide. As a rule, from four to eight ounces of brandy in the twenty-four hours will suffice. He would recommend the general rule laid down by Sir William Jenner and Prof. Loomis—never give stimulants indiscriminately; when in doubt as to giving or withholding stimulants, it is safer to withhold them; when given, watch carefully the effect of the first few doses.

Whether or not alcohol in diphtheria is an "antiseptic" or an "antidote" in the strict sense of these terms, as stated by M. Sauné and Dr. Chapman, there is a diversity of opinion; but clinical experience shows it to be absolutely essential.

In referring to its employment in phthisis, Drs. N. S. Davis and Austin Flint, Sr., are of opinion that alcohol exerts no prophylactic power. The former also believes that alcohol does not retard the development of the disease; while the latter has recorded the history of sixty-two cases of arrested tuberculosis. In nine cases, recovery was apparently complete.

In phthisis, if the effect of administration be that of a cordial, good may be expected from its use; if the effect be discomfort, alcohol will be a disadvantage.

In conclusion, Dr. Winn alluded to the injustice oftimes heaped upon the medical man for being accessory to the perverted habits of some of the unfortunates, and he would insist that physicians be more guarded in their advice as to the use of alcoholic liquors, and when in their good judgment they are indicated, prescribe them as definitely in time and dose as ether or chloroform, or any other agent.

DR. M. G. ELLZEY, of Washington, D. C., next read his essay on the same subject. As a beverage he discussed the effects of a moderate use of alcohol upon persons in health; first in creating a new physiological want, which is not a mere taste, but a systematic demand, peremptory, irresistible, and hereditary. Full statistics fortified this position. When the indulgence is carried to drunkenness, then we meet the deadliest evil of modern times. Dr. Ellzey then passed on to discuss the *Physiological Action of Alcohol*, mentioning well-known facts. He thought that pure old rye whiskey is less dangerous than other whiskeys, or French brandy. The adulterations of beer make it likewise dangerous. All stimulation is temporary and is followed by languor and depression. Referring to Dr. Hammond's experiments, Dr. Ellzey concluded that alcohol may temporarily and successfully supplement deficient food supply without bad consequences, but if the food supply is sufficient, then, even in small quantities will alcohol be followed by unpleasant effects. It should be used only in temporary emergencies or wasting disease. While it is established that some is eliminated undecomposed, the greater part is oxidized in the system. Dr. Ellzey then cited instances of the depressing and exhausting effects of whiskey upon laborers in harvest fields, upon soldiers, arctic explorers, etc.

The Use and Effects of Alcohol as a Medicine, were then pointed out; its advantage to the military surgeon in the field could not be over-estimated, in all cases of formidable surgical shock, in many severe and malignant diseases, in cases of venomous snakebites, etc., the advantage of alcohol in destroying micrococci and bacteria, etc., its value in supplying tissue in typhoid fever, consumption, etc. Especially in the last-named disease does Dr. Ellzey think *old rye* whiskey of great value, even more valuable than cod-liver oil, and the phosphorous compounds. The great need in this morbid condition, as in typhoid fever and other diseases, is *food*. Alcohol, properly used, is a food; and has this advantage, that *it enters the circulation without digestion*. Carbo-hydrates are nutritious only after some chemico-vital changes; all of which processes task the already insufficient supply of vital energy. "But alcohol takes a direct road to the circulation, taxing none of the vital organs, but rather giving a fillip to these energies, *en passant;* and once in the circulation, it enters forthwith upon its usefulness, suffering oxidation and liberating heat and other forms of energy, *pro re nata*." It ought always to be judiciously prescribed and used.

The anæsthetic effect of alcohol was remarked upon. As such it is useful in hysteria, and allied complaints. Especially in tetanus may we obtain great advantage from it. In some forms of dysmenorrhœa, whiskey is of great value.

In view of the hereditary tendency of inebriety, physicians should always be cautious as to whom they administer alcohol.

Dr. Ellzey conceives it to be foreign to the purpose of the essay to discuss the evils of drunkenness. Neither did he attempt to exhaust the therapeutical uses of alcohol.

The facts related by the author "constitute alcohol the greatest of physiological luxuries—a *magnum bonum Dei* in its skilful, scientific, and legitimate use; but in its *abuse*, a destructive and terrible agent, Satanic in its far-reaching, all-pervading power for mischief."

DR. FREDERICK HORNER, of Marshall, Va., as a contestant for the prize, read the third and last of the essays on the same subject. After defining alcohol—stating briefly its preparation, physical qualities, chemistry, history, etc.—he related some instances of its fatal toxicological effects. He spoke of the visceral and cerebral effects of the drug, and the pathological appearances which simulate those of inflammation and softening of the mucous membrane of the stomach, with cerebral congestion and sanguineous or serous extravasation in the brain and lungs. The blood is less coagulable, due to the destruction of fibrin. The improper continuous use of alcohol leads to insanity.

As a beverage, the appetite is generally acquired. As an illustration of the possible hereditary effect of habitual drunkenness, he instanced the case of a boy, 15 years old, arrested in New York for drunkenness. But he was not drunk, nor had he been drinking. He had never been able to walk without staggering. His speech was that of a person intoxicated, and, when excited, he would mutter and reel. But he was the son of an inebriate father. He referred to the annual amount of tax and revenue from alcoholic beverages for 1880, and stated that $700,000,000 were expended for such beverages in the United States annually. He pointed out the fearful amount of crime that seems to result from the traffic, and the great additional expense to corporations caused thereby.

As a medicine, alcohol, in small quantities, as a cardiac and brain stimulant has always been conceded to be useful in adynamic conditions, such as typhus and typhoid fevers, puerperal septicæmia, consumption, diphtheria, after sudden and large hemorrhages, functional gastrodynia, some forms of sea-sickness, some female nervous disorders, etc. For fevers, wine is preferable. Brandy or whiskey is better for blood-poisoning; and lager beer is useful when the nervous and visceral systems are implicated, etc.

In many instances alcohol exerts a pernicious influence on the heart. Alterations in the structure of the bloodvessels sometimes occur. Sometimes the heart's action is quickened, and the blood driven, therefore, more forcibly to the brain. Hence increased danger of cerebral hemorrhage.

Delirium is an example of the toxic effects of alcohol. The habitual use of alcoholics by young persons tends to diseases of the kidneys and liver. In confirmed inebriates, the organs are destroyed. Thus the origin of alcoholic phthisis, fatty degeneration and cirrhosis of the liver, cerebral, spinal, heart, and other diseases.

He closed by an appeal to the profession to be cautious how they administered the drug—"Striving to better, oft we mar what's good."

AWARD OF THE PRIZE.

The first ballot as to the superiority of one of these three essays over the others gave a majority vote to neither of the contestants. Many members who had not heard the full reading of the three essays declined to vote at all. The second ballot resulted as follows: Dr. Ellzey, 14; Dr. Winn, 13.

The prize was accordingly awarded to Dr. Ellzey.

SEPTEMBER 15TH, THIRD DAY—MORNING SESSION.

THE TREASURER'S REPORT

was presented, showing receipts of $720, and expenditures of $713.59, leaving a balance of $6.41 in the hands of the Treasurer, with the Society out of debt. At a later hour, the Auditing Committee reported that the accounts were correct.

ABNORMAL MENSTRUATION

was announced as the subject selected for general discussion. DR. SAMUEL K. JACKSON, of Norfolk, was called on to read a paper which he had prepared, and which bore on the subject named. In response, he reported

SOME CASES OF HYSTERO-EPILEPSY AND HYSTERO-CATALEPSY.

His paper consisted mostly in a detail of cases, with remarks suggested by them. The *first* case was that of a girl, in humble life, aged nineteen. The Doctor found her, five months after the attack began, lying on her back, her head slightly elevated, eyes fixed, complete paraplegia, and probably anæsthesia of the lower limbs, with perfect rigidity of these, and partially of the upper. When she attempted to move her arms, violent and rapid vibrations would occur, the arms being at right angles to the body. She made her wants known only by "grunts." She could not flex her fingers. Some four or five years previously, she was in the habit of jumping off a high porch. One day, she and a companion spent the whole day in this amusement. That afternoon, she had a "fit," which lasted some hours. The fits recurred frequently—especially during her menstrual periods. This state culminated in cataleptic attacks. Dr. Jackson made a vaginal examination. There was retroflexio uteri. Not being prepared to enter at the time upon proper treatment, the Doctor simply elevated the retroverted fundus. Partial relief resulted. At his next visit, the patient was sitting up. She slowly recovered, until she was able to walk on the street.

Case II.—Woman, aged 22, shirt-maker, stout, active, and strong; used *heavy* sewing machine. She had had menstrual "irregularities" often. On one menstrual occasion, a cataleptic attack occurred, which remained four weeks, until her subsequent menstruation. Then she was well for four weeks. She now failed to menstruate, and the same cataleptic condition recurred. Later, the flow became regular, and she is perfectly well. In pointing out the peculiarities of this case, Dr. Jackson called special attention to the fact that, when she was not disturbed, she remained perfectly motionless; there was, also, complete hemianæsthesia of the right side, with exalted sensibility of the left side.

Case III.—April, 1879. Girl, aged 18 years. She was easily excited, and slept but little. Menstruation was deficient, with "irregularity." Much mental perturbation, on account of association with an insane girl, after the patient went to school-teaching. She developed clonic spasms, commencing with a tremulous agitation of the arms—increasing to jerking. Dread of apprehending the lunatic or idiot, above referred to, would greatly frighten her. Such an attack would sometimes end suddenly, and at others she would remain in a cataleptic condition. A curious hoarse barking cough almost always followed these attacks. This cough gradually became relieved.

Case IV.—Miss —, age 15, suffering pains and "nervous tremblings" in both arms, with a sensation as if being "unhooked." Her mother thought she overstudied, but such does not seem to have been the fact. She fell into a profound sleep and so remained for four weeks—the only apparent act of consciousness being that of swallowing after much shaking and slapping. Then imperfect menstruation commenced, during which she opened her eyes; but this was followed by another four weeks of catalepsy, with her eyes wide open. After the subsequent monthly period, there was occasional opening of her eyes, but nothing could arouse her. This condition lasted five months. There was almost total anæsthesia of the whole body with loss of will-power. After the fifth month, she recovered, and became more sprightly than before her attack. The cause of the trouble was very obscure—the deficient menstruation being the only abnormal condition observed. The uterus was normal in size and position; but there was a bend of the sacrum about midway in its length, nearly at right angles, due to a fall in early life. Probably the sacral nerves were pressed upon by the engorged uterus during her monthly period, but no examination proved this to be a fact.

Case V.—Miss —, age 15, sprightly; in April, 1882, had a chill, and another May 4th. She began to jerk and jump. A neighboring doctor pronounced the attacks hysterical. The spells at first lasted from 10 to 20 minutes, but the duration soon increased to from 2 to 4 hours, and they were so violent as to require three or

four men to hold her to prevent personal injury. She would sometimes throw her head back between her shoulders, with her face flat on the bed, and throw her feet back above the head. It was impossible to straighten her. These attacks recurred until the last of June. She began then to go off suddenly into unconscious states, when all at once she would commence laughing and talking to imaginary persons. Sometimes nothing could arouse her—not even the firing of cannon nor deafening peals of thunder. At other times, she could hear the faintest whisper. About June 1st, she came under Dr. Jackson's observation. There had been complete amenorrhœa for two months. Agents used for the relief of this condition mitigated the paroxysms and an entirely favorable change in her condition resulted until August 20th. Since then, there have been strange periods of double consciousness, with cataleptic attacks of from half an hour to two or three hours in duration. In these attacks she would talk as though in company with distant friends and would tell where they were and what they were doing; and, strange to say, letters received by the family from the parties verified her accounts. A number of instances were related where her statements as to distant persons and things proved entirely correct. There is great hyperæsthesia of the optic nerve. She is still under treatment and is improving.

DR. J. E. CHANCELLOR, of Charlottesville, followed with a paper on

ABNORMAL MENSTRUATION.

After defining menorrhagia and metrorrhagia, he said he had met with these forms of abnormal menstruation more frequently than any other. General plethora, certain climates and habits of life, chronic metritis, chronic degeneration, fibrous tumors, polypi, fungous affections of the womb, retained products of conception, subinvolution, displacements of the uterus, were among the more prominent causes named. As regards displacements, Dr. Chancellor thinks "when retroflexion gives rise to a diminished menstrual flow, we have the attending chronic inflammation, with hypertrophy; and when retroflexion is attended by menorrhagia or increased flow, we have subinvolution of the organ." He laid special stress upon subinvolution as a cause of menstrual abnormalities.

Treatment consists in quiet, cool apartments, hard bed, iced acidulated drinks, cloths wrung out of cold water applied over the vulva, anus, and thighs, elevating foot of bed, judicious use of hæmostatics—such as ergot, gallic acid, cannabis Indica, etc. In more serious cases, tampon the vagina with a bag of powdered alum, or apply tannic acid to the os; or, after dilatation of the os with tents, hot water may be applied with a sponge; or then tincture of iodine may be used, or even, if necessary, one part of solution of persulphate of iron, diluted with two parts of water. Of course here and there the curette may be demanded. He closed his paper with the report of a case of metrorrhagia, in which the curette saved the life of the wife of a member of the Society.

A general discussion followed, but it took such wide latitude that it would be impossible to do justice to the speakers, without reporting in full their remarks.

Diphtheria was selected as the subject for discussion at the next annual session, and the Society, after adopting the usual resolutions of thanks, adjourned.

RHODE ISLAND MEDICAL SOCIETY.

Quarterly Meeting, held at Providence, Sept. 21, 1882.

(Specially reported for THE MEDICAL NEWS.)

THE Society assembled at 10 A.M. in Lyceum Hall, Providence, the President, DR. JOB KENYON, in the chair.

DR. GEORGE D. HERSEY, *Secretary*, read the records of the annual meeting, which were approved.

REPORTS FROM DELEGATES TO OTHER SOCIETIES.

DR. J. H. ELDRIDGE, of Greenwich, delegate to the American Medical Association, made a verbal report. The cordial and unlimited hospitality extended to the delegates was alluded to in terms of highest praise, as were also the men representing the profession throughout the West and Northwest.

DR. W. E. ANTHONY, of Providence, delegate to the New Hampshire Medical Society, made a verbal report, and DR. W. O. BROWN, of Providence, delegate to the Massachusetts Medical Society, presented a written report.

THE CENSOR'S REPORT

was next read by DR. S. S. KEENE, Secretary of the Board.

The following named gentlemen were recommended for fellowship and duly elected: Drs. George F. Bliven, Charles E. Woodbury, and Frederic T. Rogers.

DR. J. H. ELDRIDGE then read a paper on

TEDIOUS LABOR FROM RIGID OS.

The great frequency of protracted labors from this cause was alluded to—occurring chiefly in short and stout women in high health and primiparæ. It was not the writer's intention to consider those cases due to malformation of the maternal pelvis—to fœtal deformity, to spasm of the lower segment of the uterus, or to a previous occlusion of the os. The physiology, duration, and object of the first stage of labor were spoken of. This stage prolonged, painful, and the most distressing, often in *normal* cases, in *abnormal* ones, amounts to the fiercest internecine strife between the nervous organism of the patient and her powers of endurance. The traditional treatment of these cases of forty or fifty years ago, was mentioned, viz: The dose of castor oil, the emollient enema, venesection, tartar emetic, ipecac, belladonna ointment to the cervix, and most important of all "patience," or giving nature time to do her perfect work. In more recent years the use of ether, chloroform, chloral hydrate, opium, dilators, the colpeurynter, etc., has greatly modified the conduct of such labors.

The writer had found the use of chloral of the greatest service—in dose of gr. xv per orem, or gr. xx per rectum, and repeated every two hours if required, to blunt the sensibilities and cause drowsiness. When the os, between pains, is an inch or an inch and a half in diameter, and yielding little or none, it may be advisable to hasten dilatation by gently introducing the fingers during the pains, or to press back the anterior lip of the os over the fœtal head. In many cases it is necessary to decide whether to hasten the labor on to delivery, or to give the nearly exhausted patient a period of rest, to accomplish which a subcutaneous dose of morphia may be employed. A full dose of quinia (grs. xv) may sometimes be given for its decidedly stimulating effect on the uterus, when such effect is desirable.

The writer then briefly gave a few cases from his own practice.

Case I.—Occurred in 1855. Woman 38 years old—her third confinement. She had been in labor 24 hours, was much fatigued and very irritable. On examination the os was found to be high up, but little dilated, and very rigid. The patient was at once raised up in bed and "bled" freely from the arm. At the end of half an hour the os was much less rigid, and a natural delivery occurred within an hour.

Case II.—Was that of a woman 40 years old, stout, in fine health, and in her third confinement. The membranes ruptured early, the os was rigid and high up, and progress very slow. Ether was asked for by the

patient and administered for eight or ten hours. When not under its influence the woman was wild and unmanageable. A safe delivery resulted, but the case was trying to the operator and to the family.

Case III.—Was that of a primipara, on the third day of labor the os uteri was sensitive and rigid. Chloral hydrate, ℈j in aq. ℥ij, was given per rectum, and repeated twice at intervals of two hours. The effect was prompt and satisfactory.

The writer, in closing, deprecated the growing tendency to interfere and hasten normal labors, and said the lying-in-woman, during the tedious first stage of labor, should be patiently and tenderly managed.

On motion, Dr. Eldridge's paper was referred to the Committee on Publication.

DR. ANTHONY then read a paper written by DR. GEORGE CAPRON, entitled

MISCARRIAGES AND SOME INCIDENTAL REMARKS ON CLOSELY ALLIED SUBJECTS.

The writer had come to the conclusion that the prevalent conduct of miscarriages was not the safest or most advantageous, though he made no pretension to having kept the run of all that had been published on the subject, even in New England, and the opinions now advanced were formed regardless of authority, and based wholly on personal experience in a practice covering sixty years.

When called to attend a case of uterine hemorrhage, where an impending miscarriage is suspected, there is urgent necessity of making a certain diagnosis. The length and position of the cervix, the mammæ and areola, the color of the mucous membrane of the vulva and vagina, which in the pregnant state changes from the bright-red or vermilion tint to a dingy purple, and morning sickness, were said by the writer to be the most reliable diagnostic points, though no one of them alone was sufficient.

In regard to the prognosis, in case of threatened miscarriage, if the patient has had a chill followed by headache, if pains are occurring regularly, if there is hemorrhage accompanied by coagula, and if the os is so patulous as to allow the examiner's finger to touch the ovum, there can be little hope of prevention.

In the treatment of these cases there is no specific medicine that will be efficient in case the membranes have ruptured, or a portion of the placenta become detached. The virburnum primifolium may be used, along with perfect rest in bed, cooling acid drinks, light diet, opium, and the application of *cold* to check hemorrhage. If it is possible to remove the ovum, do so, when the contraction of the empty uterus will check the hemorrhage. But in cases where the os is but little dilated, and the ovum cannot be extracted, and the hemorrhage is so free that it is not safe to wait for the action of cold or opium, it is advisable to use the tampon. The writer prefers wads of cotton, wet in solution of alum, for the tampon, and if the use of the speculum is not practicable, by inserting two or three fingers of the left hand back of the perineum, the operator can readily introduce the cotton plugs. If clumsily done, however, tamponing is painful to the woman, and in post-partum hemorrhage at term, it is unsafe.

Having had no personal experience in the use of *hot* water as a hæmostatic, the writer only asserts the excellence of *cold* water or ice applied in the vagina or even within the uterus itself.

Many miscarriages are attended by very severe pain; these require the use of morphia, and if antimony is combined with it, the danger of inflammation is diminished. Ergot should not be given until the os is sufficiently dilated to admit the expulsion of the ovum, which otherwise might be shut in by the contracted uterus. Ergot is very reliable and sure to produce its effects, and hence must be given with great care and caution. The writer had used matico at times with good success.

A most important question is in regard to the placenta in case a small fœtus is expelled, leaving the after-birth partly or wholly within the uterine cavity.

If the placenta can be removed easily, it is best to do so, but it is not safe to forcibly extract it by any method, and thereby admit air into the womb. The danger is much less from allowing it to remain. Even if the placenta protrudes through the os, it may not be safe to remove it. If there be considerable resistance to its removal, leave it to nature.

In labor at term the placenta should always be removed if its expulsion does not occur naturally, and a very important question is the period of gestation at which the placenta may, with safety, be left to return. After *six* months it is safer to remove it.

The condition called septicæmia, the writer thought a most mysterious one, and one that was not recognized or heard of fifty or sixty years ago. In a series of twenty-five hundred lying-in cases that had come under his own personal knowledge and observation, there had occurred only one case of septicæmia.

On motion, Dr. Capron's paper was referred to the Committee on Publication.

DR. E. P. STIMPSON gave some interesting

STATISTICS OF VACCINATION.

He had used bovine virus only, and had vaccinated 523 times in 481 individuals; the operation was successful in 207 primary and 220 secondary cases. One individual had previously been vaccinated thirty times with no effect. The thirty-first time was completely successful.

Reports of cases were next called for.

DR. E. T. CASWELL reported

FIVE CASES OF LITHOLAPAXY

performed by him since last March, making ten in all that he has reported.

In this last series of five—

Case I.—Was that of a man aged 60 years, stout and fat. The stone—of uric acid—weighed 173 grains. Time of operation, a little more than an hour. Good recovery.

Case II.—Age 69, the stone was uric acid, and 47 grains in weight, but had caused very severe symptoms.

Case III.—Man 47 years old. At a previous examination a sound, passed seven and a half or eight inches, struck a stone, which gave a positive metallic clink, but did not seem to be in the bladder. At the time of the operation the sound apparently dislodged the stone, which on crushing proved to be soft. It weighed but 15 grains dry, and on examination proved to be necrosed *bone* with a thin incrustation of phosphatic salts.

Seven weeks after the operation, Dr. Caswell was called to see the man again, and found a perineal swelling simulating an abscess, but on opening it no pus was found. This swelling entirely subsided, and in two weeks time there was to be found a suspicion of bone at the bottom of the opening, which had no connection with the urethra. The patient had had no history of syphilis, or of injury, or of abscess; nor had he ever introduced anything into the urethra. The origin of the necrosed bone was therefore entirely uncertain.

Case IV.—Patient was a woman aged 51. The stone weighed when dry 100 grains. (This case was reported in THE MEDICAL NEWS for August 26, 1882.)

Case V.—The patient was a stout middle-aged man aged 59. Stone weighed 1040 grains *wet*, and 815 grains *dry*. Two hours were occupied in the operation. There were two calculi—uric acid—one having an oxa-

late of lime nucleus. The patient recovered well, and was out in ten days from the time of the operation.

DR. CASWELL further remarked that he had entire confidence in the operation which was not objectionable in patients of any age, and was much less dangerous than lithotomy. One thing is certain—the element of time in operating need not be taken into account, and the operator should not attempt to do quick work, gentleness in manipulation being all-important.

DR. D. E. CONE, of Portsmouth, reported a case where a phosphatic calculus formed on the end of a silver catheter that was allowed to remain in a patient's bladder for four weeks. The calibre of the catheter was also incrusted with the same deposit.

DR. BATCHELDER, of Cranston, mentioned a similar case.

DR. W. J. BURGE, of Pawtuxet, reported a case of *Puerperal Eclampsia*.

The Society then adjourned.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, September 7, 1882

J. SOLIS COHEN, M.D., VICE-PRESIDENT, IN THE CHAIR.

Case of Carcinoma Mammæ (presented by DR. C. B. NANCREDE, for Dr. Charles Wirgman).—Mrs. Josephine M., aged 48 years, married at 23, the mother of three children, the last born sixteen years ago. Had nursed all her children, but the last died from marasmus, owing to the small amount of milk the mother had, although lactation was free after the first two confinements. She never had had any abscess of breast, traumatism, or eczema of the nipples, although she had always experienced pain and uneasiness in the right breast when nursing. There was no trace of carcinoma in family history. A sister had had an enchondroma of one of the metacarpal bones. When young, the patient had suffered from dyspepsia, and on one occasion had had an attack of hæmoptysis. Of late years, Mrs. M. has grown very stout, although never robust nor strong. About the middle of June, 1882, she first noticed a lump in her right breast, at its upper inner quadrant, about the size of a hen's egg. A few nights previously she had been awakened by a severe lancinating pain in the right breast, but, experiencing no further inconvenience, she paid no attention to it. The mass did not seem to grow till after an exploring needle had been inserted, when the growth became softer, much larger, painful, and the skin and superjacent veins rapidly showed marked changes. I saw her Aug. 6, 1882, with Drs. Wirgman and Hearn, when the only additional points to be noted were that the growth was freely movable with the breast upon the chest walls, and that a mass the size of a pigeon's egg could be felt in the axilla, under the outer margin of the pectoralis major muscle. Dr. Wirgman removed the whole breast by two semicircular incisions, opened up the axilla, and removed all the glands up to the clavicle. This operation again emphasizes what Dr. S. W. Gross has specially insisted upon, viz., that although the axillary glands may appear before operation uninvolved, that when the axilla is opened, numbers are often found enlarged. This accords with my own repeated experience. Although slow in healing, the case has done well since operation.

This case presents special points of interest, to which I desire to call attention. In the first place, its history and appearance were eminently suggestive of a rapidly forming sarcoma, which was either cystic or what at once suggested itself to me before etherization, one into whose substance hemorrhage had occurred. Upon careful examination under ether, the discovery of the enlarged gland at once suggested the strong improbability of sarcoma, which view I abandoned. After the removal the macroscopic appearances once more threw doubt on the diagnosis, as there was for at least one-half, if not more, of the circumference of the growth, a distinct *appearance of a capsule*, and, as I had surmised, the tumor had been broken down by a hemorrhage into its substance. Subjected to microscopic examination, the specimen was again puzzling, since sections of the first piece embedded showed in every portion of their extent, with a few very slight exceptions, small spindle-cells of a connective-tissue type. Dissatisfied, I embedded a second piece, sections of which revealed a typical carcinoma of the soft variety. This again illustrates what I have many times insisted upon in this Society, viz., that either very large sections of growths should be made, as Dr. Seiler advocates, or sections from several and varied portions of the morbid mass should always be carefully examined.

Recurring Carcinoma of Mamma and Axillary Glands (presented by DR. C. B. NANCREDE).—The patient, Mrs. F., æt. 37 years, from whom the specimens were removed before the discovery of the primary tumor, about eighteen months back, was in perfect health, although from pecuniary losses she had undergone much mental anxiety since the Chicago fire. Hearing a vivid account, from a friend, of another case of carcinoma mammæ, her mind became deeply impressed, and shortly after she discovered a growth in the upper inner quadrant of the left breast, which continued to grow until it had attained at the time of the first operation to the bulk of a small orange, viz., one year after her first discovering it; she lost much flesh, from the time of the discovery of the growth; she had never suffered from any form of traumatism; had had no eczema of the nipple, and although she had borne one child a number of years back, and had suckled it, had never had sore nipples. There was nothing which could be fairly construed as an hereditary history of carcinoma. The primary operation had consisted in a removal of part of the breast. In less than two months after this a small nodule appeared in the cicatrix, while the axillary gland began to enlarge rapidly. On July 8, 1882, I saw her in consultation with Drs. R. R. Taylor and Harlow, when I found that there was a small nodule in the middle of the original cicatrix, while the axilla was occupied by the mass of indurated glands, which I here present. The growth partially embraced the axillary artery, since when the former was compressed the radial pulse was decidedly affected. Not being allowed to remove the whole breast, I freely excised the small recurrent growth, and after a tedious dissection removed the axillary tumor, laying bare the artery and vein for a space of over an inch, clearing everything out to the clavicle, and distinctly recognizing the coracoid process of the scapula. Although not the place for a clinical discussion, I cannot refrain from emphasizing the importance of the thoroughness with which this axillary dissection should be performed. Not a single gland should be left, enlarged or not. Properly conducted, there is hardly any hemorrhage, a vessel rarely requiring ligature. This case was treated on Listerian principles, but with a spray of acetate of aluminum, and the wound was dressed with the same. There was no inflammation, heat, pain, nor subsequent induration, and, if I remember rightly, the case required but five dressings, until the wound became superficial, and fewer would have been necessary had perfect coaptation been secured. One or two points where stitches made marked tension showed a surrounding skin blush, which disappeared on the removal of the stitch; immediately contiguous to this the wound-edge looked as

if made but a few minutes before, thus showing that the irritation of *tension* was the trouble, which, as before said, very rapidly disappeared when the deeply imbedded stitch was cut. The temperature rose to 100 2° at the end of the first twenty-four hours, after which it remained under 100°. The pain after the removal of the pressure of the button-stitches amounted practically to nothing, according to the patient's own statements, and it will be remembered that she had the experience of a former operation for comparison. I believe that this is the first case where acetate of aluminum has been used in this city in a Listerian operation, and its success disposes of the absurd statement that carbolic acid *is* Listerian.

Carcinoma of Stomach (presented by Dr. J. H. Musser).—The clinical aspects of this case were so definite that when this man applied to the Medical Dispensary of the Hospital of the University of Pennsylvania, for treatment, early in April of this year, it was without difficulty that malignant disease was diagnosed. He was a farmer of good habits, 53 years old, and previously in good health. For the last six months he had suffered from "weakness of the stomach," and general debility, which prevented him from working. He had lost much flesh, and had constantly a severe sickening pain in the epigastrium extending to the upper part of the lumbar region, which became much worse within an hour after eating. Appetite was poor, tongue clean and pale, bowels constipated, with troublesome flatulence. A tender, non-pulsatile, movable tumor extended across the epigastrium from the margins of ribs on the one side to a similar site on the other, one inch and a half above the umbilicus. He presented an anæmic, cachectic appearance.

Dr. H. Plank, of Morgantown, took charge of the case, and wrote me April 21, 1882, that he was much benefited by the treatment instituted, but was confined to bed by sheer exhaustion. June 5, the Doctor reported increased weakness and emaciation, and that the pain had extended along the left side to the same shoulder. He took but little nourishment and he commenced vomiting, June 10, undigested food, mucus and grumous purulent matter. He died June 20, of exhaustion, after a nine months' illness.

Dr. Plank kindly sent me the specimen I here present. One fourth of the pyloric end of the stomach is involved in the growth, which extends along the greater curvature for four inches, along the lesser two inches, and completely encircles the organ. The stomach walls in front of the diseased mass were dilated, the muscular coat being hypertrophied, and the mucus membrane congested. The mass encroached upon the calibre of the viscus so as almost to occlude it. The tumor consisted of three nodules, one of which was ulcerated on its mucus surface, and presented the appearance of a scirrhus. The glands in the lesser omentum were diseased.

Spindle-celled Sarcoma of Thigh (presented by Dr. J. Henry C. Simes).—The patient, from whom this specimen was removed, presented himself for admission to the Episcopal Hospital, on August 30, 1882. He is 60 years old, an Irishman, and gave the following history. Two years ago he first noticed at the lower and outer part of the thigh, a small swelling, which grew rapidly to the size of a hen's egg, when it was removed. Shortly after the wound had healed, a second tumor was noticed in the cicatrix, having the same characters as the previously removed growth. This was also removed by operation, and again, in a still shorter interval, a third similar growth was developed in the same locality, which was also removed by the knife. When admitted to my wards, there was found, upon examination, at the lower and outer part of the thigh, a linear cicatrix about two inches long, beneath and adherent to which, as well as to the surrounding integument, was seen a tumor as large as a walnut, movable upon the deeper tissues, painless, dense, and irregularly nodular. There was no glandular enlargement observable. No other tumors were present. The tumor was readily removed, being adherent only to the overlying skin, which was included in the incisions. Microscopic examinations showed that the neoplasm consisted entirely of large spindle-shaped cells, which contained large oval nuclei.

NEWS ITEMS.

The Progress of the Yellow Fever.—The convalescence of Brownsville, Texas, may be considered as having been established during the past week. It has suffered and has recovered. Hitherto, quarantine has been directed to preventing egress from the infected district; it may now well assume as part of its duty, the prevention of the ingress of fresh material, until the season of propagation has ended. The guard of one hundred and thirty men, established by the Marine Hospital Service between Laredo and Corpus Christi, has been withdrawn, as there are now no points of infection in Star and Hidalgo Counties, except in the vicinity of the river. The *Cordon Sanitaire* is now extended along the river from Laredo to the Arroyo Colorado.

At Pensacola, Fla., the disease continues unabated. The daily telegrams of the health board show that many of the cases are among the colored population. Hospitals have been established during the week for facilitating the nursing of indigent patients. To date (Sept. 25) there have been reported 517 cases and 54 deaths, as follows:

Up to and including Sept. 18, 217 cases, 29 deaths.

Dates.	Cases.	Deaths.
September 19th,	26	4
" 20th,	41	6
" 21st,	60	2
" 22d,	43	2
" 23d,	36	5
" 24th,	39	4
" 25th,	55	2
Total,	517	54

These have occurred in the city. No reports have been published concerning cases which may have developed among the shipping, although we know from the appearance in Hampton Roads of an infected vessel from Pensacola that there have been such cases.

The navy yard continues free from fever by virtue of a vigilant non-intercourse quarantine against the infected locality. There is much destitution among the 1700 residents in the guarded reservation. Except the paid pickets and a few laborers in the yard, no one has employment. Food is exceedingly scarce, as they are cut off from the outside world. The health authorities of Mobile have been requested to despatch a steamer with provisions for their relief.

On account of the continued freedom of New Orleans from fever, the precautionary guard instituted by Mississippi and other States on the river over their traffic with that city, will be discontinued on September 30th. The Louisiana Board of Health has not accepted this surveillance over the condition of New Orleans with the cheerfulness and good-will which it promised at the outset. It will be correspondingly relieved at the termination of the inspection system.

The following is a summary of the progress of yellow fever at *Brownsville, Texas*, for the *week ending September 23*, furnished by the Surgeon-General of the Marine-Hospital Service, compiled from official returns:

Dates.	Cases.	Deaths.
September 17th,	27	1
" 18th,	19	4
" 19th,	14	1
" 20th,	18	1
" 21st,	8	1
" 22d,	4	1
" 23d,	9	0
Total,	99	9
Previously reported,	1,771	94
Total during epidemic	1,870	103

In addition to above, there were two cases—no deaths—for Sunday, the 24th inst., which will be included in next week's summary. Five new cases and one death on Monday.

Reports indicate that the disease has been confined within the Arroyo Cordon on the Texas side, but that it has extended to many of the river towns and ranches on the Mexican border of the Rio Grande as high up as Guerrero. The Corpus Christi and Laredo Cordon has been removed and guards placed along the river, making a new cordon extending from the Arroyo to Laredo, thus cutting off all communication with the infected districts in Mexico.

At Point Isabel (inside the Arroyo Cordon) official reports give the following.

Dates.	Cases.	Deaths.
August 29th,	10	0
" 31st,	8	1
September 16th,	8	1
" 22d,	4	1
Total,	30	3

Official reports from *Pensacola, Fla.*, by mail, have been received by the Surgeon-General, to include the 21st of September, as follows:

Dates.	Cases.	Deaths.
September 16th,	19	1
" 17th,	8	0
" 18th,	27	1
" 19th,	26	4
" 20th,	41	6
" 21st,	60	2
Total,	181	14
Previously reported,	163	27
Total during epidemic,	344	41

CHOLERA IN JAPAN.—During the ten days from August 21st to 31st, there are reported as having occurred in Yokohama and vicinity, 465 new cases of cholera, and 281 deaths. Total since commencement of the epidemic, 3266 cases and 2000 deaths. On the 30th of August, an American, named Blass, was seized with the disease and died in less than twelve hours. He is the first adult foreign resident in Yokohama who has been attacked.

CHOLERA IN THE PHILIPPINE ISLANDS.—The cholera epidemic in the Philippine Islands, is still making fearful ravages, although the mortality is much less than it was a few weeks ago. At the beginning of this month the deaths in Manilla alone averaged 300 daily, and during the last two weeks of August, there were 4,550 deaths from the disease in the single province of Yloilo. The deaths at present number about 50 daily in Manilla, but reach the terrible total of nearly 200 in the surrounding country.

SMALLPOX IN ILLINOIS.—The Secretary of the State Board of Health, under date of September 20th, reports that smallpox is now practically at an end in Illinois. The efforts to obtain complete immunity by vaccination, however, should not be relaxed, for whenever there exists any considerable number of unprotected persons there is danger, as is shown by the history of the recent local outbreaks. That in Monroe County was caused by an infected mattress thrown into the Mississippi River, and which lodged on Staten Island, near Harrisonville. Some unvaccinated persons came in contact with the mattress, and a number of cases ensued. Thence it was carried into Randolph County, where it found a number of other unvaccinated individuals near Prairie du Rocher, and caused an outbreak among them, with three deaths at date of last report, September 14th. In Alexander County, near Goose Island and Promised Land, some nineteen cases and four deaths have resulted from infection brought also from the river. All these cases were among unvaccinated persons.

From present indications, the chief source of danger is along the Mississippi River, south of St. Louis. The Immigrant Inspection Service of the National Board of Health has diminished the danger of importations from the east to the minimum. Many of the Mississippi and Arkansas River counties have, however, been severely visited, and the conditions of life among the negro population of that region are not such as to warrant the belief that the contagion will be readily "stamped" out among them. It is liable to be introduced into the State from this source at any time until the disease dies out there for the want of material. And whenever introduced, it will find its victims among the unprotected.

HARVARD UNIVERSITY VETERINARY SCHOOL.—A veterinary department is to be opened at Harvard this fall. The course is arranged to cover three years of theoretical and practical instruction.

UNIVERSITY OF LOUISVILLE.—The Faculty of the Medical Department of the University of Louisville has undergone some very important alterations. Prof. T. S. Bell is transferred from the chair of the Science and Practice of Medicine, to the newly created chair of State Medicine and Sanitary Science.

Prof. L. P. Yandell, so long the popular teacher of Materia Medica and Therapeutics, and more recently the occupant of the chair of Diseases of Children and Dermatology, will hereafter teach the Principles and Practice of Medicine and Clinical Medicine.

Prof. Parvin, formerly of Indianapolis, the well-known editor of the *American Practitioner*, has accepted the chair of Obstetrics, made vacant by the death of Prof. Crowe.

Prof. Holland has been transferred to the chair of Pathology, Clinical Medicine, and Diseases of the Nervous System, and Dr. Roberts has been promoted to the chair made vacant by the death of Prof. Cowling.—*Nashville Journ. of Med. and Surg.*, Sept. 1882.

STATE ANALYSTS.—Prof. E. S. Wood, M.D., of Harvard College, and Prof. B. F. Davenport, M.D., of the Massachusetts College of Pharmacy, have been appointed the analysts under the Act relating to the adulteration of food and drugs in Massachusetts.

JAPANESE MEDICAL LITERATURE.—Two hundred and sixty-seven medical works were published in Japan in the Japanese language in 1881.

POISONOUS BULLETS.—A German journal refers to a discovery by M. Gros, of Paris, with regard to the complaints which were made of the use of poisoned bullets by the combatants on both sides during the Franco-

German war. He explains that the construction of the modern breech-loading arms causes the bullet to convey with it a portion of the hydrocyanic acid which the explosion of the powder has caused to be accumulated in the barrel. Even if poisoning to a mortal extent does not take place, it is remarked that the healing of wounds is materially retarded by this circumstance.—*Medical Times and Gazette*, August 26, 1882.

AN HONORABLE CITIZEN.—The *Monthly Sanitary Bulletin*, of Lowell, Mass., for August, gives an account of the abatement of a soap-boiling nuisance which was established fifty years ago when there were few houses in the locality, but which is now surrounded by a dense population. In consequence of complaints coming to the Board of Health, its members called on the owner, rehearsed the complaints, and stated what was the law and its decisions on the subject, whereupon a prompt acquiescence was given to the requirement of the Board to have the grease rendering establishment removed to a less thickly settled locality. "This decision," says the *Bulletin*, "while it will highly gratify the residents in the vicinity, reflects honor upon the owner, as he must make quite a sacrifice in the change."

KOUMISS.—Koumiss, made at home, costs about fifteen cents a quart. The *Ledger*, of this city, gives the following recipe for its manufacture: "Fill a quart champagne bottle up to the neck with pure milk; add two tablespoonsfuls of white sugar, after dissolving the same in a little water over a hot fire; add also a quarter of a two-cent cake of compressed yeast. Then tie the cork on the bottle securely, and shake the mixture well; place it in a room of the temperature of 50° to 95° Fahr. for six hours, and finally in the ice-box over night. Drink in such quantities as the stomach may require. It will be well to observe several important injunctions in preparing the koumiss, and they are: 1. To be sure that the milk is pure; 2. That the bottle is sound; 3. That the yeast is fresh; 4. To open the mixture in the morning with great care, on account of its effervescent properties; 5. Not to drink it at all if there is any curdle or thickening part resembling cheese, as this indicates that the fermentation has been prolonged beyond the proper time." Make it as you need to use it. The virtue of koumiss is that it refreshes and stimulates, with no after-reaction from its effects.

INJECTION OF SALT SOLUTION AFTER HEMORRHAGE.—DR. E. SCHWARZ reports, in the *Berliner klin. Woch.*, August 28th, a case of collapse from hemorrhage in which he injected 1000 cc. of 0.6 per cent. salt solution. The patient regained consciousness, but died in six days.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending September 16, 1882, indicate that remittent fever has considerably increased, and that diarrhœa, bronchitis, cholera infantum, cholera morbus, neuralgia, and whooping-cough have increased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending September 16, and since, at 20 places, scarlet fever at 8 places, measles at 2 places, and smallpox at 2 places, as follows: in Berlin Township, Ionia County (convalescent), September 12: at Ionia, September 18.

PUBLIC HEALTH IN CONNECTICUT.—The Secretary of the State Board of Health, in his monthly report, states that the mortality for July was exceptionally large, especially in the cities, and that cholera infantum stands first among the causes. Typhoid fever is reported to be steadily regaining its old prominence, while not entirely displacing malarial disease. Smallpox apparently is at last stamped out. There has been very little scarlet fever reported, and the mortality is slight. Whooping-cough still prevails. An epidemic of measles was reported from Nangatuck, and it reappears in the mortality tables in several cities. Stamford, South Manchester, Oxford, and Wilton, report quite a prevalence. Diphtheria is reported at Montville, Mystic, Norwich, Avon, Suffield, and Plainfield, Malarial diseases are prevalent, the type ranging with the duration of the disease.

THE SIBERIAN PLAGUE.—A telegram to the *British Medical Journal*, reports that the Siberian plague is manifesting itself in an unusually widespread and alarming manner. Reports of its appearance have been received from the most widely separated quarters of European Russia, and a case of death from the pestilence is announced from Odessa.

OBITUARY RECORD.—DR. GEORGE CAPRON, the oldest physician of Providence, R. I., died of apoplexy, Sept. 21st, at the age of 80 years.

Dr. Capron had been in constant and active practice for more than sixty years, and worked up to the moment of the outset of his brief and painless illness, which occurred the 17th inst. Soon after he was attacked, he spoke of a paper he had just completed, to be read at the approaching meeting of the Rhode Island Medical Society, of which he was President in 1850, and always an active member. He desired a friend to convey his regards to the Fellows, and tell them he should never meet with them again.

—— M. L. A. DESMARRES, for a long time one of the most eminent oculists of Paris, died suddenly, on August 22, at Neuilly. He was born on September 22, 1810, at Evreux.

NOTES AND QUERIES.

NITRATE OF URANIUM IN INCONTINENCE OF URINE.

To the Editor of THE MEDICAL NEWS.

Dear Sir: Having lately heard of the successful treatment of an obstinate case of incontinence of urine in a child by an irregular practitioner with nitrate of uranium, would you allow me to ask through your columns if any of the profession know of its use, or have had any experience with the drug named?

Yours, very truly,
ALEXIS D. SMITH.

PHILADELPHIA, September 21, 1882.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 18 TO SEPTEMBER 25, 1882.

SPENCER, WM. G., *Captain and Assistant Surgeon.*—Granted leave of absence for four months, on Surgeon's certificate of disability.—*S. O. 219, A. G. O., September 20, 1882.*

BUSHNELL, G. E., *First Lieutenant and Assistant Surgeon.*—Granted leave of absence for one month.—*S. O. 147, Department of Dakota, September 7, 1882.*

HOPKINS, W. E., *Assistant Surgeon.*—Relieved from further duty at Camp Washington, Gaithersburg, Md., and will proceed to Fort Adams, Rhode Island, and resume his duties at that post. —*S. O. 168, Department of the East, September 22, 1882.*

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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ORIGINAL LECTURES.

IRITIS.

A Clinical Lecture delivered at the Central Dispensary, Washington, D. C.

BY SWAN M. BURNETT, M.D.,

SURGEON IN CHARGE OF THE DEPARTMENT OF DISEASES OF THE EYE AND EAR.

(Reported for THE MEDICAL NEWS.)

GENTLEMEN: The cases which we now present to the class, represent a form of eye disease which should be of great interest to you, from both a practical and a scientific standpoint. It demands your attention practically, because of its frequent occurrence and the disastrous results which usually follow it if not promptly recognized and energetically treated; while its scientific importance consists in the fact that we have represented in it all the forms of inflammatory action with which we have to deal, and that too in a position always open to inspection. In other words, the iris is a mirror in which we may see reflected all varieties of inflammation, except the distinctly mucous, from their beginning to their ending.

This is due to the position of the iris and its anatomical structure. Being at the bottom of the anterior chamber, and covered by the clear aqueous humor and transparent cornea, all alterations are readily detected; while in its substance we find all the tissues of the body except cartilage and bone. Muscular tissue is represented by the sphincter and dilator pupillæ; there is connective tissue, and an abundant supply of vascular and nervous elements. The epithelium on its anterior surface being a continuation of that of the posterior surface of the cornea, forms what is, to all intents and purposes, a serous membrane. Besides these, it has on its posterior surface pigment-cells, which bring it by continuity of tissue in immediate relation with the uveal tract in the posterior chamber of the eye, composed of the ciliary body (ciliary muscle and ciliary processes) and choroid. It thus becomes, as you see, a connecting link between the two chambers of the eye, and pathological alterations of each are likely to manifest themselves in it in some form or other, and, on the other hand, morbid changes in its tissue are liable to extend themselves in either or both directions.

From the standpoints of pathology and differential diagnosis, this is of immense advantage. It enables us to do that which I do not think can be done in any other portion of the body so readily; namely, make a precise nomenclature according to pathological products. We should, therefore, expect an inflammation of the iris to assume a purulent, or a plastic, or a serous form, and, as a matter of fact, we usually find iritis appearing under one or the other of these types, though it is by no means rare to have a mixture of two. We may have the plastic supervene on the serous, and sometimes some suppurative action is associated with the plastic, but it rarely or never happens that the serous and suppurative are combined in the same case. There is another form of exudation which is typical and distinct, the like of which has not been found, as far as I know, in any other organ, and that is what is known as the spongy exudation.

Basing, then, our nomenclature on the character of the inflammatory exudation we have: (1) *plastic iritis;* (2) *suppurative iritis;* (3) *serous iritis;* and (4) *spongy iritis.*

Making abstraction of hyperæmia of the iris, which is only the early stage of some form of iritic inflammation—but which oftentimes goes no further—you can class all forms of iritis under one of the above types.

Though these several forms have, in addition to their pathological exudations, some points in their clinical history which serve to distinguish them from each other, there are still some other features which they have in common, to which we will call your attention before we notice the individual types.

In the first place, among the subjective symptoms, we note *pain.* In all forms of iritic inflammation, except the serous, pain is a prominent and important symptom. It is that usually which drives the patient to the surgeon. If one has mere redness of the eyes, unaccompanied by acute pain, it is apt to be referred to a "cold," and professional advice is not sought; but, fortunately for our patients, pain is considered an alarming symptom, and the most intelligent of them at once call the attention of their medical attendant to their trouble. And just here we would call your attention to a very humiliating fact. In a much too large number of cases, unless the medical attendant has taken the pains to inform himself on these questions, the affection is still looked upon as a "cold," and, being considered a mere conjunctivitis, an astringent collyrium is ordered, and the treatment continued for days it may be, whereby much valuable time is lost. Now this is a mistake which should never occur, and no man should engage in a general practice where such cases are liable to fall under his care without being able to make a differential diagnosis between iritis and conjunctivitis. Any neglect in this matter is nothing short of criminal, and if you learn from this clinical course nothing else but to differentiate these two forms of inflammation, you will not have spent your time in vain.

You will remember that in our clinical lecture on conjunctivitis, I called your attention to the character of the discharge in making the diagnosis of this affection. Conjunctivitis being an inflammation of a mucous tissue, has a mucous or purulent exudation. During the stage of hyperæmia, it is true, this discharge may be scanty or absent, but during the state of inflammation proper there is always some mucous discharge. The amount varies from a quantity just sufficient to gum the lids together during the night's repose, to a drachm in the course of a few hours, as we have it in the purulent form. Even an experienced surgeon cannot always tell by the appearance of the conjunctiva whether there is a conjunctivitis associated with an episcleritis, as we find it in some forms of rheumatic ophthalmia, or a mild iritis, and even in some cases of iritis there is sufficient conjunctivitis to give a gumming of the lids on awakening in the morning. The characteristic discharge of iritis is watery. It is simply an increased flow of tears brought about by reflex action through the fifth pair of nerves.

The character of the pain is another point on which the diagnosis hinges. In conjunctivitis it is seldom acute, and assumes more a feeling of discomfort, and as if a foreign body was in the eye, is not as a rule paroxysmal, and is not disturbing at night. On the contrary, the pain in iritis, as each of the patients here present will tell you, is excruciating at times, though there may be periods of comparative repose. The pain too

is usually worse at night, and in the large majority of cases the exacerbations occur during the early hours of the morning. Moreover it is not usually limited to the eye, as is the case with conjunctivitis, but extends throughout the divisions of the fifth pair of nerves on that side. The pain is as often referred to the occipital branch of the fifth as to the frontal.

There is also more or less *photophobia*, or intolerance of light. It seldom or never, however, becomes so excessive as in corneal inflammation, and in some cases is entirely absent. In conjunctivitis, as a rule, unless the light is very intense and artificial, no special discomfort is felt.

In these cases of doubt, the safe rule for the general practitioner, who is not sure of his knowledge, is to instil a drop of a solution of sulphate of atropia into the affected eye. If it is a case of acute conjunctivitis, the atropia, on account of its anodyne properties, will do good, and if it is a case of commencing iritis, it is a strong blow at the enemy at the outset. If the pupil dilates *ad maximum*, leaving only a narrow black line of the iris visible at the circumference of the cornea, the absence of any serious inflammation of the iris can be considered as established. But if the pupil does not expand freely, and particularly if it is oval or irregular in outline, even if no adhesions are to be detected, it would be well to continue the atropia, for the probabilities are that you have to deal with a hyperæmic condition of the iris which may go on to a full-blown inflammation, and the great advantage you have gained in this dilatation of the pupil should not be lost.

We had an instance of this in the condition of the left eye of one of the patients, the colored man Ferguson, before you, as some of you may remember who saw him when he first came under observation four or five weeks ago. At that time there was considerable pain and watering of the eye, with the characteristic circum-corneal zone of redness. The pupil was still active, though less than normal, to the influence of light, and was altered but little in its appearance; in other words, all positive evidence on the part of the iris itself of pronounced inflammation was wanting. But the other manifestations, as well as an undoubted syphilitic history, convinced me that there was a hyperæmic condition which had not yet gone on to the stage of exudation. I therefore ordered a drop of a four-grain solution of atropia to be instilled into the eye three times daily. At his next visit the pupil was dilated, but not to its fullest possible extent, as would have been the case if it had been conjunctivitis, nor was it perfectly round, a somewhat larger bridge of iris showing at the upper outer corner. The syphilitic treatment, which had been previously ordered, and the atropia were continued. Nothing more was seen of him for three weeks, when he returned. He states that in a few days, under the treatment ordered, the pain and redness disappeared and the medicine was stopped. A few days ago, however, all the former symptoms reappeared suddenly and greatly increased in intensity, and when he presented himself an aggravated form of plastic iritis was evident at a glance. Undoubtedly hyperæmia of the iris can be occasionally aborted, as in this case, but the instances are, unfortunately, rare.

We will now take up the individual forms of iritic inflammation and point out the peculiar characteristics of each. As it is the form most commonly met with, I shall consider *Plastic Iritis* first. As its name indicates, the exudation in this form is plastic, and as a result we should expect adhesions between adjacent structures, and this we find to be the case. When the pupil is of normal size the posterior surface of the iris in its immediate vicinity lies against the anterior capsule of the lens. If now, plastic matter be thrown out from the inflamed iris, these two surfaces become adherent, the iris is bound down, and expansion of the pupil at that portion is impossible. If the whole circumference of the pupil is thus adherent, it will be immovable, even on the application of the strongest mydriatic. If, however, only a segment is bound down, a mydriatic will exert some, though it may be not a full, influence on the remaining portion of the iris, and draw the edge of the pupil away from the centre. In this case the shape of the pupil will be irregular. If you take a lens of three inches focal distance, and concentrate the light from a lamp upon the pupil of an eye suffering from plastic iritis, as you see me do in the case—Ferguson—before us, you will note the outline of the pupil, instead of being round and regular, to have one or more reëntrant angles; and if you examine closely, you will see that the apex of each of these angles is a point of adhesion between the iris and capsule. In this case you observe two such adhesions, one at the upper outer angle and another at the lower outer angle. Moreover, if you examine the area of the pupil closely, you will see several small deposits of pigment on the surface of the capsule. These are caused by the pigment from the posterior surface of the iris which remained behind when the iris tissue was torn away from its adhesion by the force of the mydriatic. You will also notice a great change in the appearance of the iris. On comparing it with that of the other eye, you see that it has lost its brilliancy; it is dull and muddy in appearance, and is thickened and spongy-looking. Its radiating fibres are no longer to be seen as in the healthy eye. In this case you notice that the thickening is greater in some parts than in others, and occasionally you will find, as in the case of the soldier from the Soldiers' Home, which we showed some of you last week, a quite clearly circumscribed elevation not unlike a gumma, which, in the majority of cases, it really is. These alterations in the aspect of the iris are due to two causes: engorgement and infiltration of the iris tissue, and inflammatory exudation into the aqueous humor. In certain diffuse opacities of the cornea, the iris has the same muddy and lack-lustre appearance as in iritis, and I have known beginners in ophthalmology to confound the two; but if, when examining by the oblique light of the lens, you carefully note the appearance of the cornea, you need not fall into any such error.

In *Suppurative Iritis* the appearances of the iris are somewhat different. There is great swelling of the tissues, and there is a yellowish tinge to the whole, due to the purulent infiltration, and nearly always there is pus in the anterior chamber, which by the force of gravity falls to the bottom, forming what is known as a *hypopyon*. As there is always a greater or less amount of plastic matter thrown out, we may look for some adhesions, but the infiltration of the tissue is so general that the mydriatic seldom produces any effect.

In *Serous Iritis* we have a totally different set of symptoms and appearances. In this type there is little or no pain, and not usually any signs of acute inflammation, such as redness, photophobia, etc. Patients, as a rule, come for examination on account of defective vision only. A superficial inspection of such an eye does not usually offer any explanation of the complaint. It is here that examination by the oblique light, as you saw me make it in the case of Ferguson, is of essential service. On concentrating the light from the lamp by means of the three-inch lens, on the cornea and iris, you will find that the cornea, while almost perfectly clear for the greater part of its extent, is studded on its posterior surface over a certain area with fine dots like the dust of meal. This area is usually at the centre of the inferior part of the cornea. You will find a statement in the text-books to the effect that these dots are arranged in the form of a pyramid with its apex upward, and this form is accounted for by supposing the

greater quantity of the matter forming the dots has fallen by the action of gravity towards the bottom. According to my observation, this is by no means the rule. In a very large number of cases the affected area occupies the centre of the cornea, and is not pyramidal in shape, and you can quite frequently see a clear portion between the corneal periphery and the lower portion of the affected part. These dots vary in size from those which can be readily detected by the naked eye, to the most minute ones only visible by means of a magnifying glass. The iris tissue seen through the clearer parts of the cornea is but very little if at all altered, and the pupil, instead of being abnormally small, is, on the contrary, frequently somewhat dilated. The question now naturally arises why this should be called iritis at all. Formerly it was not. In some of the older text-books it was called *Descemitis* and *keratitis punctata*, but there is as little evidence of an inflammation of the cornea proper as of the iris. We seldom or never have an implication of any portion of the cornea except the membrane of Descemet. But we do sometimes have the deeper structures of the iris involved, though, as a rule, the morbid process is limited to the epithelium on the anterior surface, which is, as I have told you, continuous with that lining the posterior surface of the cornea. In fact this layer forms a continuous lining to the cavity of the anterior chamber, and when it is affected in one portion, it is likely to be affected in another. I am, therefore, not of those who look upon the dots on the membrane of Descemet as altogether deposits of inflammatory matter thrown out by the iris. The whole affection is a morbid process confined to the epithelium lining the aqueous cavity, embracing the cornea as well as the iris; and although some of the dots may be due to fibrin which has been deposited by the aqueous, much the larger number are due, in my opinion, to degenerative changes in the cells themselves. It has been called serous iritis because there seems to be an unquestionable increase in the liquids in the interior of the eye, as evidenced by an increase in the tension of the eyeball and of the depth of the anterior chamber in a very large number of instances. It is by no means infrequent to see a plastic form of iritis engraft itself on a serous. In such a case, you will have the signs and symptoms pointed out under that head.

The next form of iritis which I shall consider, I am enabled to illustrate with a case. It is rather rare, and was not described until within the last eleven years. I allude to *Spongy Iritis*. As its name implies, the exudation in this form is spongy, and it fills the whole of the anterior chamber. The appearance is quite peculiar and distinctive. The iris itself is almost obscured from sight, and a superficial glance might lead you to suppose a diffuse keratitis. The color is of a yellowish-gray, and in the early stages perfectly uniform, which is hardly ever the case in keratitis. It is, however, when the exudation is beginning to be absorbed, as it usually does in the course of a few days, that this character is most marked. The case before you, of Margaret G., a colored woman, aged 20 years, will show you this quite distinctly. On throwing the light from the lamp into the eye by means of the lens, you will see that the lower part of the anterior chamber is of a grayish-yellow color, and the iris is scarcely visible; you will notice, too, that the surface of the cornea is unaffected; you will observe at once a sharp line running across the cornea, about three mm. from the upper edge, and beyond this you see the iris quite clearly, and but little altered in structure. If I now cause the patient to look strongly downward and still keep the light concentrated on this portion of the cornea, you will see that this line marks the boundary of an exudation which occupies the depth of the lower portion of the anterior chamber from the iris to the cornea. The course followed by this exudation is quite regular, and the clinical history of such cases offers some typical deviations from the usual plastic form. In the first place, the pain in the earlier stages, before the exudation begins to be observed, is greater than we usually find it in the ordinary plastic form, and it is more continuous, having no periods of remission; but the cessation of pain, according to my observation, is almost instantaneous as soon as absorption begins. The manner of absorption, too, is peculiar. It begins at the circumference and progresses towards the centre from all sides, presenting always the sharply defined edges which I show you in this case. Such an appearance is very likely to lead to the supposition of a lens dislocated into the anterior chamber. The absorption progresses gradually, but with comparative rapidity, and usually in a week or ten days there only remains a small quantity of a gelatinous-looking material in the pupillary area.

The case before us is exceptional in so far as it is a woman, the only cases which have been reported in detail thus far being in males.

It sometimes appears under a typical form, and when the exudation is absorbed you find no adhesions. In Margaret G., however, it is associated with iritis plastica, and you can see behind the grayish exudation, if you look carefully, what I am sure is a gumma at the lower inner edge of the pupil.[1]

The character of this exudation is distinctly fibrinous in its early stages, but it seems to possess no tendency to organization and becomes wholly absorbed, first breaking down into a gelatinous mass.

But iritis, gentlemen, can be very properly and advantageously studied from another standpoint, namely, that of causation. We may have an etiological nosology, and its practical advantages are not to be overlooked. Considered in this light, experience has taught us that we may divide inflammations of the iris into the following classes:

1. Idiopathic iritis.
2. Syphilitic irits.
3. Rheumatic iritis.
4. Traumatic iritis.

Idiopathic iritis is of course only a form of expression to hide our ignorance of the cause of the inflammation. When we can find nothing to account for it, we say it is idiopathic, and genuine cases are probably rare.

The *syphilitic form* is, however, of frequent occurrence. The number of cases of syphilitic iritis probably outnumbers all the other varieties, even after we have eliminated those of doubtful character. It usually occurs under the plastic form, though the serous and spongy forms are by no means rare. It is, however, doubtful whether syphilitic iritis ever assumes a suppurative character. The tendency of the syphilitic lesion is more towards organization than pus formation.

Are there any characters, aside from a history of infection, which stamp an iritis as of specific origin? There are many who contend that there are. The point on which most stress is laid is the circumscribed character of the inflammation.

In syphilitic iritis, as in all other forms of specific inflammation, it is held, the tendency is to a strict circumscription of the pathological product. You will observe that in the papillary eruption on Ferguson's forehead, each papule is distinct, and however close two may be together, there is no appearance of their running into each other. While, therefore, not accepting this appearance as pathognomonic, it often serves as one point in a differential diagnosis, particularly be-

[1] After the exudation had been absorbed, as it was in a week from that time, the nodule and an extensive synechia were found. A clear history of syphilis was given.

tween syphilitic and *rheumatic* iritis. In the latter form I think it is seldom that there is such a restriction of inflammatory action to a particular portion of the iris tissue. You know the character of rheumatic inflammation in other parts of the body is diffuse, and it never becomes distinctly limited in outline.

As compared with the *rheumatic form*, syphilitic iritis is of short duration and comparatively easy to manage if seen sufficiently early. I know of no other internal inflammation of the eye in which the influence of proper treatment is so promptly manifest as in syphilitic iritis. In from five to fifteen days the force of the disease can usually be broken, while in rheumatic iritis sometimes weeks pass with no perceptible change, and in a large number of cases of the typical form the regulation "six weeks" go by before you can declare the patient convalescent; and in this form I think relapses are more frequent than in the others. I am convinced too that the pain in the rheumatic variety is more persistent and more severe than in any of the other forms.

You may have iritis occur at almost any stage of syphilis, though it is commonly reckoned among the secondary symptoms. I have seen it several years after infection, while again it may be the first prominent symptom to attract attention. In fact, it would never be well to conclude too hastily that a case is not of specific origin, even if there be no history pointing to syphilis. The old soldier from the Soldiers' Home, already alluded to is a case in point. As soon as I saw the nodule on the pupillary edge of the iris, I asked the assistant surgeon of the Home who had had him under observation for several weeks, if there were no symptoms of syphilis. He said the most thorough examination had failed to reveal any trace of past or present lesion of that nature. I advised him to continue his watch, for I was quite sure the nodule was a syphilitic gumma. Two weeks afterwards he informed me that typical mucous patches had made their appearance in the mouth.

I shall not speak separately of gonorrhœal iritis, because when we have iritis as an accompaniment of gonorrhœa, it is always associated with the rheumatism which we sometimes find attendant upon urethral discharges.

Traumatic iritis, more frequently than any of the other varieties, manifests itself under a purulent form, particularly when the wound is caused by the entrance of a foreign body. You will remember the case of the colored man from the country, admitted to the house some two weeks ago, who had, when we saw him only two days after the injury, a pronounced purulent iritis. The foreign body (a piece of steel from a hoe) must have been very small, for the wound in the cornea was discoverable only by oblique illumination, and the injury to the iris seemed to have been proportionately small. There was already pus in the anterior chamber, forming a hypopyon, and the iris tissue was swollen and of a yellowish tinge. With a view (though without much hope) of checking the progress of the inflammation, we opened the anterior chamber, let out the pus, and excised the wounded portion of the iris. It was of no avail, however, for the next morning the lids were swollen hard and tense, and there were all the signs of panophthalmitis. The case went on to atrophy of the globe, and a few days ago we enucleated it, because it was still painful, and the other eye began to show signs of irritation. In this case the inflammation travelled back to the ciliary body and choroid, and the foreign body, which was still in the interior of the eye, no doubt added greatly to the virulence of the inflammation.

As a rule iritis is unilateral, though both eyes are liable to be affected in time. I have not observed that the prognosis is worse in the colored than in the white race.

Treatment.—The first object in the treatment of iritis is to obtain the widest possible dilatation of the pupil and maintain it. It is above all things important to prevent adhesions between the iris and capsule, and this is much more likely to occur when the pupil remains contracted. In the first place, when the pupil is dilated, the iris is removed further from the capsule, making adhesion more unlikely; and, in the second place, the area to be filled with inflammatory exudation is largely increased, and the danger of occlusion of the pupil is correspondingly reduced. This dilatation of the pupil is best obtained by instilling into the eye every six hours a solution of sulphate of atropia of the strength of four grains to the ounce of water. The atropia being an anodyne, also acts as a calmative to the pain. It acts, too, directly on the inflammatory process, for in dilatation of the pupil the iris tissue is compressed and of course holds less blood, and as a consequence the exudative process is in a greater or less degree checked. All other treatment is secondary to this. When we see cases of iritis for the first time, the inflammation has usually made such headway that it is useless to attempt to cut it short; but when the pain is excessive and the inflammation of a distinctly sthenic type, local blood-letting is advisable. From three to six leeches to the temple or the artificial leech will often give immediate relief to these symptoms. But for the relief of pain the most reliable remedy is opium in some of its forms. It is often advisable to give the patient an opiate on going to bed—usually as late as ten or eleven o'clock, since the severest pain is commonly felt in the early morning. The opium not only subdues the pain, but acts beneficially on the course of the inflammation. After a full dose of the drug, the injection and photophobia are usually much less. As regards local applications for the relief of pain, nothing is better than warmth and moisture in some form. The most agreeable and convenient manner of its application is by means of a flannel bag about the size of the hand, filled with hops, which is immersed in water as hot as can be borne, and laid on the eye after it has been squeezed so as to expel all superfluous water. It was formerly the custom as soon as a diagnosis of iritis was made out, to begin the use of mercury, and push it rapidly to salivation. The pendulum then swung in the other direction, and there were those who found they could treat iritis, even of the specific form, without any mercury. The proper course lies between these two extremes. In rheumatic iritis mercury seems to exert but little influence on the course of the inflammation, but large doses of salicylate of sodium quite often make a profound impression on it, and in some cases may be expected to cut it short. But it must be given very heroically—as much as thirty grains every three hours until there are giddiness and singing in the ears. Where, however, there is reason to suspect syphilis, even though no positive proof of its existence may be furnished, mercury should be given. It need not be used, however, to the extent of immediate salivation. I am among those who believe that the action of mercury in syphilis is to assist nature in disposing of the excess of cellular elements to which the specific poison has led. This seems to be accomplished by a breaking down or fatty degeneration of the cells, with elimination by the various emunctories. In this process mercury undoubtedly aids, and I think the more effectually when given in moderate doses for a considerable time. Among our out-patients we generally use one-thirty-second to one-sixteenth of a grain of bichloride of mercury with two or three grains of iodide of potassium three times daily, after meals.

There is usually no necessity for confining the patient

to a dark-room. A modulation of the light is all that is requisite. Completely darkened chambers in eye inflammations are among the barbarities which have come down to us from the dark ages of ophthalmology. If all light is positively painful, then the bandage may be applied to exclude it, but we have no right to deprive the other portions of the body and the patient's attendants of the beneficent influence of that stimulant of nature so necessary for the mental and bodily well-being.

In the treatment of the serous form, where there is no pain and but little inflammation, the atropia, opium and other palliative measures may be dispensed with. Here our chief reliance must be on mercury, continued in small doses for a long time, as the course of the disease is usually very tedious, sometimes running over many months.

ORIGINAL ARTICLES.

PULSATING VASCULAR TUMOR OF ORBIT, EYELIDS, TEMPLE, AND FOREHEAD, TREATED BY ELECTROLYSIS.

By CHARLES STEDMAN BULL, A.M., M.D.,

SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY; OPHTHALMIC SURGEON TO ST. MARY'S FREE HOSPITAL FOR CHILDREN, AND TO THE NURSERY AND CHILD'S HOSPITAL; LECTURER ON OPHTHALMOLOGY AND OTOLOGY IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE.

Though the application of electrolysis in the treatment of vascular growths is by no means a new thing in surgery, and, although, it has had a somewhat extended trial in small vascular growths or nævi in the eyelids, its application in the treatment of large vascular tumors of the orbit or eyelids, or, in fact, any part of the body, has been limited. The following is, therefore, reported, not only on account of its rarity and the great size of the tumor, but also as demonstrating the advantages and disadvantages of employing electrolysis in the treatment of large vascular growths in the vicinity of the orbit and eyelids. The patient was a female child, who was admitted to the Nursery and Child's Hospital on the 19th of September, 1881, at which date she was twelve weeks old, and I first saw the child one week later. The following information was obtained from the mother: The family history was excellent on both sides. The father and mother are both living and apparently in robust health. The little patient was their first child, and was born at full term, after a very easy normal labor, on June 26, 1881, and has been nursed by the mother from her birth.

She has never had a day's illness, and sleeps quietly and soundly at night. On the second or third day, the mother does not exactly remember which, she noticed a spot about the size of a small nickel cent, half an inch above the centre of the left eyebrow, upon the forehead, and to the right of this, and near the median line, another of the same character, but smaller in size. These two spots were but very slightly or not at all elevated above the surrounding surface, were very *white* as compared with the surrounding skin, but there was no swelling or roughness of the skin noticeable. The child grew rapidly, but the spots remained unchanged for a period of three weeks, and nothing abnormal was noticed for the same period, when there appeared a slight discharge from the left eye, as if the child "had caught a cold in the eye," which was muco-purulent in character, as the eyelids were glued together at times. Though this was treated with astringent applications by a physician of the neighborhood, the eye did not improve and the discharge continued. About the same period, or three weeks after birth, a small, vivid red spot, as large as a pea, appeared upon the lower anterior surface of the right forearm, and has slowly increased in size. The upper eyelid now began to have a swollen appearance, and partially concealed the eyeball, and about this time the two spots began to grow red, not suddenly, but very gradually, and this was accompanied by an extension of the swelling from the eyelid upwards and forwards. During the next five weeks there was an occasional cloudy, watery discharge from the eyelids, and the swelling of the upper lid and supra-ciliary region became more prominent. The area of redness spread somewhat rapidly over the whole eyelid, upwards upon the forehead, and slightly upon the temple at the external commissure of the lids. During the three weeks preceding the child's entrance into the hospital, the tumor increased in size very rapidly upwards, outwards, and inwards towards the nose, as well as forwards, giving a marked prominence to the growth in the supra-orbital region, and to some extent filling the zygomatic and temporal fossæ. The mother also noticed that the child could not lift the upper lid, that the eye was pushed very decidedly forward, and was very limited in its motions. The area of redness was always progressive, but not to the same degree in all directions, the main extension having been upwards upon the forehead, "in two tongues," as the mother expressed it. It also gradually changed from a light-red or pinkish hue to a reddish-purple color.

When I first saw the child, she was a very marked example of perfect health in every particular, except the left eye and vicinity. A careful examination revealed the following condition of affairs. The swollen and purple eyelids projected almost directly forwards, in front of the plane of the orbit, in a mass as large as the two closed fists of the child, so that in a profile view of the face, it concealed the entire nose except the tip. The lower lid was entirely hidden from view by the overhanging upper lid, which was pushed downward much below the level of the lower orbital margin, and about on a plane with the junction of the nasal cartilages with the naso-buccal furrow. The swelling extended over the entire upper lid, upon the bridge of the nose, and encroached upon the right side of the nose and nasal end of the right eyebrow. The child's forehead was rather prominent, and the swelling extended well above the frontal bosses. The growth also filled the entire zygomatic fossa and nearly the entire temporal fossa, extending backwards to the anterior edge of the concha. Most of the swollen region in the lid and on the forehead was of a livid red or purple, but the inner or nasal end of the lid was much lighter in color, and the temporal region was scarcely discolored. From the supra-ciliary region there extended up-

wards two irregularly shaped tongues well towards the line of the hairy scalp, which were much brighter in color, and resembled strongly in appearance the ordinary vascular nævus. The ciliary margin of the lid, while almost purple in color, was but little swollen, and there exuded from beneath it a thin, muco-purulent discharge. The skin over the swollen region was tense except at one point, the most prominent of all, which was situated over the line of the superior orbital margin, and at the union of the middle and inner thirds of the lid. Here the skin fluctuated on pressure and was evidently very thin.

Careful examination showed that the main swelling was in the subcutaneous tissue of the lid and eyebrow and in the orbital cellular tissue, while the skin itself was the seat of a pure nævus. The growth in the zygomatic and temporal fossæ, though yielding slightly to pressure, was firm and dense, but the swelling in the lids and orbit yielded markedly to pressure, and a few moments' compression with the fingers directly backwards towards the apex of the orbit sufficed to diminish the size of the tumor by from one-half to two-thirds. The moment, however, that the fingers were removed, the swelling reappeared as before. On lifting the upper lid, the eyeball was seen to be pushed downwards and inwards toward the nose, but there was little protrusion of the eye beyond the normal plane of the orbital opening, showing that the orbital part of the growth did not extend deeply into the orbit, but rather occupied its upper and outer portions, and this latter fact could be recognized by introducing the finger beneath the upper lid at the external canthus. The eye was limited in motion in all directions, but especially upwards and outwards. The media and membranes were perfectly normal, the iris reacted naturally, and an ophthalmoscopic examination showed a normal nerve and retina with no change or interference in the pupillary circulation. Close observation of the summit of the growth discovered a slight pulsation visible to the eye, and this became more distinct to the fingers when a slight pressure was made upon the tumor.

The thinning of the skin over the summit of the tumor and its easy indentation at this point, convinced the writer that there was a cavity of some size in this region, which probably was entirely outside of the orbital cavity, and was filled with blood; and that therefore the tumor was of a mixed nature, cavernous as well as teleangiectatic, in this resembling so many vascular tumors not only of the lids but of other parts of the body. A vessel as large as a large goose-quill could be felt under the skin, at the external angle of the lids, and could be traced a short distance towards the temple, and another one, somewhat less in size, was felt running across the bridge of the nose and connecting with the angular artery on the right side; this was distinctly an artery, as it pulsated under the finger. Pressure upon one or both of these vessels made no difference in the swelling. Pressure upon one or both carotids produced no effect on the size of the tumor, even when kept up for some time, but it stopped all pulsation. At no time was there any murmur or bruit noticeable over the tumor or vicinity. The child was very restless during this long examination and cried persistently, but became quiet immediately when left undisturbed. Some bleeding from beneath the eyelids followed, but it was slight in character and ceased in half an hour.

Another point determined by the examination was that the pressure of the tumor had produced an absorption of the underlying bone in at least two places; for just over the supra-orbital margin, in a line with the point of exit of the supra-orbital nerve, was a distinct excavation in the bone into which the point of the finger could be introduced, and at the external angle of the orbital margin was another and larger excavation. The skin over that portion of the tumor occupied by the two tongues before mentioned was corrugated both to the sight and touch, and all over the growth, in detached spots, there was a well-marked superficial arborescent vascularity. The nævus upon the fore-arm was about the size of a silver ten-cent piece, with elevated surface and sharply defined outline. There were no other marks anywhere else upon the child's body.

A consultation was held by all the members of the attending and consulting staff, all the gentlemen but one agreeing in their opinions as to the nature of the tumor, but differing somewhat as to what ought to be done. One of the gentlemen, however, differed from the opinion of his colleagues that it was a mixed teleangiectatic and cavernous growth, and thought that it might be malignant in character. The methods proposed for the relief of the child were, with one exception, of the same nature, and differed only in detail. The first thing to do was to cut off the blood supply in one of several ways. The majority were in favor of ligating the left common carotid in the usual way. Another suggestion was to tie both the external and internal carotid arteries on the left side. Still another was to ligate both common carotid arteries, because the tumor extended somewhat beyond the median line, and evidently drew some of its vascular supply from the vessels on the right side of the face, and also because of the possible internal anastomosis within the orbital cavity through the medium of the ethmoidal vessels. This

proposition was abandoned, because it left the supply of blood to the head to be carried on only through the medium of the vertebral arteries, and in an infant these vessels are very small and probably of insufficient size for the nourishment of the parts. It was thought that the left common carotid artery at least should be tied, as a preliminary step, and that afterwards, in case there was but little diminution in the size of the tumor, an operation might be undertaken for ligating any smaller vessels around the base or outskirts of the mass.

It was the opinion of most of the gentlemen who saw the case that electrolysis was not to be thought of as a primary or preliminary operation, owing to the extreme size of the tumor, and also to the probability that it was a mixed cavernous and teleangiectatic growth; but that after the carotid artery had been tied, and the child recovered from the operation, electrolysis might be essayed as a further help in bringing about coagulation and diminishing the size of the tumor. From all these opinions the writer ventured to dissent. He was of the opinion that the child was too young to allow of any hopes of a successful result from ligation of the common carotid artery, as death would probably ensue. The operation of ligating the nutrient vessels at the base or periphery of the tumor he thought too dangerous to be justifiable without previously tying the common carotid. He was strongly inclined to try electrolysis as a primary operation, as the least dangerous in the case, while it might produce at least a partial result in lessening the size of the tumor. It was finally decided to keep the child under observation in the hospital and await further developments, and to give the child five-drop doses of the fluid extract of ergot three times a day, as a possible means of controlling the circulation.

The child remained under observation until the end of December, and during the first month of this period the tumor slowly increased in size, and the skin over the palpebral portion seemed to grow thinner, but about the fifth week after the administration of the ergot had been begun, the growth seemed to stop and the tumor remained apparently stationary in size for several weeks, then it began to slowly diminish in prominence, and this continued until the end of December, when the mother was permitted to go home with the child upon condition that she would return immediately if any change for the worse appeared. During all this time the ergot had been constantly administered, and the mother was directed to continue its use at home.

The child was not seen again until the middle of March, 1882, at which time the tumor had again increased very much in size, and the anterior skin wall was extremely thin. The mother had neglected the ergot treatment, and there had been recently several small hemorrhages, which apparently came from beneath the surface of the lids, and frightened the mother very much. There was no change whatever in the child's general condition, and after a week's observation, it was not deemed advisable to postpone operative interference any longer. As at the first consultation, so now, the writer determined on electrolysis, as perfectly applicable to a soft growth which contained a decomposable liquid, whether arterial or venous, or both. It was thought that the decomposition of the blood and the accumulation of acids and alakalies at each of the poles, would bring about a chemical cauterization in the walls of the bloodvessels. This would probably aid in the disintegration and absorption of the tumor. There would be little or no danger from hemorrhage, as the coagulation would be instantaneous around the needle punctures, and the only danger to be feared would be a possible suppuration and abscess in the tumor, ending in perforation of its anterior wall. We know that this electrolytic action is most pronounced at the cathode, and that absorption is hastened by the chemical effects of the current and the mechanical and irritating effects of the needles, and that this may slowly continue for weeks. As a result, disintegration and atrophy take place, which continue for a long time after all electrolytic treatment has ceased. Another fact which inclined the writer strongly to electrolysis, lay in the knowledge that we have that an erectile tumor offers but little resistance to the passage of the galvanic current, and its tissue readily electrolyzes. Furthermore, in vascular tumors both poles of a galvanic battery may be made to operate simultaneously.

The first application of the electrolytic method was made on March 28, 1882, the child having previously been etherized. The battery first employed was a zinc-carbon Stöhrer battery; and on the principle that definite electro-chemical action may be excited when either one or both electrodes are broad flat disks, the first operation was done with the needle at the negative pole and a flat sponge disk at the positive pole. The needle was plunged through the skin into the tumor at the external angle of the orbit, and the sponge or positive pole was at first placed over the swelling in the temporal fossa. The current from two cells was then passed through the tumor, and, after one minute, increased to four cells, and after another minute to eight cells. At the end of the third minute the positive pole was removed from the temporal fossa and placed over the superior orbital margin, just covering the thinnest part of the tumor wall. The number of the cells was then gradually increased to sixteen, and after six minutes had elapsed from the time the current was first allowed to pass through, it was broken. A small nodule of condensation was felt around the negative pole, and the needle was withdrawn with some difficulty. Time, six minutes; current from sixteen cells. The child rapidly regained consciousness, and in less than ten minutes was laughing and crowing in its mother's arms. There was no perceptible change produced in the tumor by the operation. and no general rise of temperature or any untoward symptom in the general condition of the little patient.

On April 1st, the third day after, the second session was held. The child was etherized as before, and the needle or negative pole was inserted about half an inch from the previous point of in-

sertion, and just over the superior orbital margin. The positive pole or moist sponge disk was applied to the nasal end of the tumor, and a current from two cells was then passed. The number of cells was slowly increased to sixteen, and the positive pole was slowly moved about all over the inner or nasal half of the tumor. This second session lasted twelve minutes before the current was broken. As before, a quite marked nodule of condensation was felt at the negative pole, and the needle was removed with some little difficulty, and was followed by two or three drops of almost black blood. The child regained consciousness rapidly, and its general condition was apparently entirely unaffected either by the etherization or the operation, there being no rise of temperature or acceleration of the pulse. Time, twelve minutes; current from sixteen cells.

The third session was held on April 7th, six days later, and a different battery was employed, being a modification of the ordinary zinc-carbon battery by Spamer. The battery fluid used was composed of bichromate of potassium, 20 grammes; sulphuric acid, 45 grammes; sulphide of mercury, 2 grammes; and distilled water, 300 grammes. As electrolysis is produced most quickly and effectually when the current is made very dense by the use of small needles, it was determined to use small needles at both poles. The negative pole was introduced into the tumor on the nasal side, just at one side of the bridge of the nose and below the inner end of the eyebrow, and the positive pole was introduced on the temporal side near the external angle of the orbit, and just above it. As at the other sessions, the operation began with a current from two cells, and this was gradually increased to eighteen cells. The distance between the points of the needles was about half an inch as nearly as could be determined. Marked condensation occurred at the negative pole and a somewhat slighter hardening at the positive pole, but there was no perceptible diminution in the size of the tumor. Both needles were withdrawn with some difficulty, and their removal was followed by some slight bleeding. The superficial color of the tumor became decidedly paler, and this was also noticeable in the two tongue-shaped nævi, which ran up on the forehead, and lasted for a short time after the breaking of the current. Time, twelve minutes; current from eighteen cells.

The fourth session was held on April 11th, four days later. The negative pole was introduced just below and to the inside of the external canthus, and two needles were attached to the positive pole, one being introduced on the nasal side very near the point of entrance of the positive pole at the previous session, and the second being introduced through the lid lower down. A current from two cells was then passed, and this was somewhat rapidly increased in strength until twenty-two cells had been brought into the circuit. The two positive poles evidently entered a cavity, as they moved freely about, and could be made to rub against each other. The tumor blanched rather rapidly under this current, which was kept up unbroken for fifteen minutes. When the current was broken, the needles at the positive pole were removed without any difficulty, but the negative pole was removed with great difficulty, came out with a jerk, and was followed by some fluid blood, and a good deal of thick, disintegrated blood. Violent reaction followed, with marked increase in size of the tumor, a rise of temperature to 102¼° and pulse of 168, with vomiting, crying and constant restlessness, coming on in about five hours. There was marked and extensive condensation about all three needle-holes, and a perceptible diminution in the size of the tumor. The unpleasant symptoms disappeared on the following day, but the condensation remained and had increased, so that over a space included between the points of entrance of the needles the tumor was hard and firm, and pulsation had ceased. The area of condensation was about an inch and a quarter in diameter, and was of an elliptical shape. Owing to one of the needles having partially lost its insulating envelope, there was a small slough of the skin at its point of entrance, but this proved to be very superficial and there was no hemorrhage at this point. The hardening and condensation increased steadily as long as the child remained under observation, but unfortunately the father removed her from the hospital on the fifth day after the operation, contrary to the expressed wishes and direct orders of the writer.

In conclusion, I have to thank Dr. Chas. T. Poore, and Dr. Beverley Livingston, for the use of their batteries and their kind assistance at the operations, as well as Drs. Henry and Murray, of the House Staff of the Nursery and Child's Hospital.

JULY 26, 1882.

BLOWS ON THE ABDOMEN AND THEIR FATALITY.

BY WOOSTER BEACH, M.D.,
OF NEW YORK.

IN the NEWS of September 16th, are reported four cases of injury to the abdomen, of a severe nature, ending in recovery. Allow me to present a case with a fatal termination:

A young man about twenty years of age, while somewhat under the influence of liquor, created a disturbance in the street, for which he was arrested by a policeman. He became abusive to the officer and refused to be taken to the station-house. The assistance of three other policemen was secured, and the four seized the young man, two taking him by the arms, and two by the legs, carrying him, in this way, through the street. On the way, he was very noisy and struggled some, but was easily controlled, Suddenly, one of the policemen raised his club and struck him a blow, as near as could be ascertained, directly over the stomach. Instantly, he ceased his noise, his body became limp and powerless, and in this apparently lifeless condition, he was carried on to the station-house, a distance of less than a quarter of a mile. Arriving there, it was found that he was dead.

A post-mortem showed the body to be that of a well-developed, apparently healthy man. There were no external indications of violence, and after

a careful and exhaustive search of the entire body, absolutely no abnormal appearances could be discovered. I gave it as my opinion, before the coroner's jury, that death resulted from the blow. The policeman was tried, and convicted of manslaughter.

Because his cases ended in recovery, your contributor argues that blows on the epigastrium cannot produce sudden death.

While I confess to sharing in the doubt as to whether a fatal result can with positive certainty be traced to an injury of this kind, the first two cases reported, seem to me as tending rather to dispel the doubt, than to strengthen it. Had death quickly followed the receipt of the injury, probably no post-mortem changes would have been discernible. Now, who would say that in both these cases, the patients were not in great danger of dying? They suffered from *extreme* shock. Life was at so low an ebb that, for a time, it must have been very doubtful whether they would revive. Both recovered, it is true, but these cases seem to prove that, had the conditions been even slightly changed, the wounds would have resulted fatally. If the constitution of the patients, or the force or character of the blow, or perhaps the treatment, had been different, they might have died. And from these injuries we would not likely have post-mortem marks.

The latter two cases do not bear on the question, as the violence was so great in them that its effect would leave lesions plainly visible after death.

It cannot be claimed that it is the amount of violence to the abdomen that produces sudden death, as this is sometimes so great as to rupture a viscus, and without death immediately following. Shock more or less profound follows, but, as a rule, not sufficiently severe to cause death.

If it is true that a blow on the abdomen does cause death, it must be from some peculiar or unusual manner in which it is struck, or from it falling on some particular spot, or from some other unexplainable reason. It must be admitted that there are but few cases on record of sudden death from this cause, but this alone does not prove them to be uncommon. Cases of this kind would not likely reach a hospital, and its records would therefore show none. If attended by a physician, they would not likely be published, for the reasons that physicians generally do not publish their cases, and that those who do their duty better in this respect, would not be likely to report a case of a class not held to be exceptional by most surgical authorities.

Still, I cannot help agreeing with the writer of the article in the News, that sudden death, following blows on the abdomen, happens very seldom. In an extensive experience in examinations of bodies for the coroner, I can recall no case except the one that I report. Unfortunately, most of my notes have been destroyed, and it is possible that cases escape my memory. I can, however, assert with a good deal of positiveness, that but this single case of a criminal nature has been investigated by me. Further, this rarity seems fairly proved by the fact that in the thousands of fights, beatings, and tussles, besides innumerable accidents almost constantly occurring, there cannot but be numerous instances where blows are inflicted on the abdomen, and, supposing the blow necessary to produce sudden death require ever so unusual or peculiar conditions, considering the vast number of blows given, not an insignificant percentage must perfectly fulfil these conditions. In the aggregate, these would constitute a large number of such deaths, and the knowledge of them could not escape finding its way to the profession.

Yet the well-authenticated evidences of death rapidly following blows over the epigastric region, must be explained in some way. They are usually attributed to their effect on the solar plexus. Without attempting fully to discuss this matter, I merely suggest, first, that it seems improbable that the solar plexus, so thoroughly protected by the soft and movable viscera, and the elastic gas in the stomach and intestines could receive a shock from a blow on the skin over it; and second, that those serious injuries that are sufficiently severe even to rupture abdominal organs do not communicate an impression on the solar plexus. At least, they do not as a rule cause sudden death. The "stroking" and "tapping" experiments of the German investigators should perhaps be considered, but I am not prepared to make an application of the results of their experiments to the solution of this question.

I have repeatedly called attention to a class of sudden deaths of which I find little or nothing in the books. An individual, apparently in perfect health, pursuing his ordinary avocation, with scarcely a moment's warning, sinks to the earth and dies, it might be said, instantaneously. Post-mortem examination conducted with the greatest care, reveals absolutely nothing to account for death. Instances of this mode of death are by no means uncommon. Occurring in private practice, and an autopsy being difficult to attain, the physician certifies to "heart disease" as the cause of death, a term which covers a multitude of sins—of omission. Persons dropping dead in the street, or under circumstances that may be thought suspicious are brought to the coroner's notice and their bodies are subjected to post-mortem examinations. To meet the possible objection that the autopsy in these cases has not been made with thoroughness, or with sufficient knowledge, or skill, I will say that in many of them, I have had the assistance of the best pathologists that our city affords.

Now, in view of the difficulty of finding any reason to explain these deaths following blows on the abdomen, and from the unfrequency of fatal results following such blows, I believe the assumption is entitled to consideration, that they should be classed with the sudden deaths that I have described, and that their occurrence directly after the blow, is a mere coincidence.

This subject is of decided importance in a medico-legal view, and I hope that its discussion may continue and not cease till it is definitely settled whether comparatively light blows on the epigastrium produce sudden death.

161 East Forty-ninth St.

EPIDEMIC CATARRHAL FEVER.

BY FORDYCE GRINNELL, M.D.,
PHYSICIAN TO THE PINE RIDGE INDIAN AGENCY, DAKOTA.

A LATE epidemic of catarrhal fever occurring throughout these regions, presents some points of interest to which it may be well to refer.

But little attention seems to be given in medical literature to the consideration of this disease. Dr. Flint in his *Practice* devotes barely one page to its consideration, and yet it is one of our most widely extended and frequently recurring epidemics, and, furthermore, one seizure by the disease does not afford an immunity from further attacks. It is an ailment not infrequently attended with serious results. The writer since the beginning of his practice, ten years ago, has noted three wide-spread epidemics of the disease, has lost one of his nearest relatives by it, and has known of many deaths.

The beginning of the epidemic here was as sudden as is usually the onset of the disease "La Grippe." It seized with great suddenness, and hence has well been termed "lightning catarrh." The first cases developed about the 20th of March, almost simultaneously with the appearance of "epizoöty" or "pink-eye" among the horses. The first family to which I was called lived seven miles distant in Nebraska. The mother of this family was first taken with the disease, afterward the children, five in number, three boys and two girls, and then the father. All were severely affected and confined to the bed a part of the time. They considered their ailment simple "colds," and did not deem it necessary to send for a physician until the most serious symptoms manifested themselves in the third case, a boy 11 years of age. He had complained but little the previous day, was out of doors and playing with the other children much of the time, ate quite a hearty supper at night, and was dead before midnight. He was complaining, however, of pain in the throat, and was quite hoarse, as was his wont when he had a cold, so that his parents did not consider him dangerously ill four hours before death. The pain in the throat and sense of suffocation, however, increased to an alarming extent, and the boy died gasping for breath near midnight, and less than an hour after the messenger had been dispatched for me.

He had been dead nearly an hour when I arrived and, of course, I can not give a more minute description of symptoms. The family, however, had done all that intelligent nursing could do, and I do not think any of the physician's arts could have saved the patient.

His symptoms were very much like those of the other members of the family, only intensified. Afterward the others experienced the usual course of catarrhal fever, commencing chill, general feeling of malaise, and flashes of heat, alternating with chilly sensations. The temperature usually increased in the afternoon and evening, reaching at such times a temperature of 102°–103°. There was reddening of the mucous membranes of the respiratory organs, in many cases the congestion affecting the Eustachian tubes, and in some afterwards treated, producing intense pain in the ears, eventually resulting in a purulent discharge, especially with children and old people.

During the latter part of March I treated 17 cases (11 males and 6 females). In April I treated 192 cases (104 males and 88 females), and in May 48 cases (20 males and 28 females), or a total of 257 cases.

The nervous system in many of these was profoundly affected. Extreme prostration with some intense pain in the head. Sometimes the frontal sinuses were inflamed, and the seat of the pain located there, especially in those where the coryza was most marked. At other times the pain was of a neuralgic nature, or again pain was complained of in one-half of the head, as in migraine. As before referred to, earache was a prominent symptom with children and old people. We can, perhaps, account for this and the subsequent discharge of pus by the extreme congestion of the mucous membranes of the fauces and air-passages, extending into the Eustachian tubes, and thus pressing upon and affecting the membrana tympani.

Sharp, shooting pains in various parts of the body were not infrequently complained of. Those of the chest and side were apparently as severe as those of pleurisy, and increased on respiration. Aside from the usual flushing of the face, I noticed a peculiarity which I have since seen referred to by Dr. Da Costa in THE MEDICAL NEWS for May 20, viz., an irregular mottling of the skin of the face, neck, and breast. This was so marked in one case that the mother feared that scarlet fever or measles was about to supervene. Profuse perspiration quite frequently occurred, especially at night. Diarrhœa occurred in many cases.

The duration of the disease varied, the average being about one week, but many cases continued two or three weeks. One peculiarity of the disease is a tendency to relapse. After one is up and about, and feels comparatively well, a relapse is liable to occur, not, perhaps, including the same increased temperature, but with the same wandering pains, and general feeling of malaise, with, may be, the distress in the nose and orbits, and irritation in the Schneiderian membrane.

Some who had irritable heart, and others who had not, experienced a very unpleasant palpitation, and were obliged to arise to a sitting posture at night to get relief from dyspnœa. Here seemed to be a symptom corresponding to what the veterinary surgeons called the "thumps" in horses, especially those worked while suffering from the epizoöty were not infrequently affected with such strong action of the heart, that each throb was perceptible, and the horses became wet with perspiration even while standing in the stall.

Another result intimately connected with this, and perhaps arising from it, was that almost all mares with foal, severely afflicted with the epizoöty, aborted. Did this arise from the dyspnœa? A similar tendency occurs with pregnant women who suffer from the catarrhal fever.

Cazeaux says, on page 442 of his work on midwifery, "Though some epidemics (of influenza)

have appeared to spare pregnant women, many have affected them as severely, at least, as other individuals exposed to the same influences. Thus I found, as did also M. Jacquemier at the Maternity Hospital, that the epidemic of influenza attacked a great many pregnant women, but contrary to his observations, I witnessed numerous abortions as a consequence either of the disease itself, or of the violent spells of coughing which tormented the patient."

Zuelzer, in vol. ii. of Ziemssen's *Cyclopedia*, page 535, says: "Pregnant women frequently suffer abortion, and in many who are afflicted with amenorrhœa, the catemenia are established. This effect of influenza has been repeatedly verified in many epidemics. It is, therefore, very worthy of remark, because it recalls analogous phenomena in other infectious diseases, and is indicative of an agency exerting an important alterative effect upon the whole organism."

What is this agency? The effect of the disease is to depress the nervous system, and interfere with the free and full action of the heart. There is, in short, imperfect aeration of the blood, and the blood of dyspnœa induces emptying of the uterus.

Dr. J. Matthews Duncan, in speaking of another subject, says, in his clinical lectures on the diseases of women: "Here I would mention to you an interesting set of facts in connection with this subject. If you read over the cases of heart disease, especially mitral regurgitation, you will find that in them women are very likely to miscarry, and miscarriage is in them almost certainly a direct result of the disease (jaundice).

"If there is a poison in the woman's blood, in this case, it is probably a poison from imperfect aeration of the blood, and that induces the miscarriage. This has been almost proved by experiments on the lower animals, showing that the blood of dyspnœa induces emptying of the uterus. You have further evidence in the fact that the children are almost always born fresh, if not alive. The disease has brought on miscarriage; it has not killed the child. The condition of the blood has stimulated the uterus to action directly."

It seems to me that the abortions in a large percentage of cases are due directly to this—the stimulating effect of deoxygenated blood upon the uterus, and exceptionally, if at all, to the violent spells of coughing referred to by Cazeaux. The cough has been a comparatively unimportant element in this epidemic.

I have noted but one case of premature birth which I attributed to the catarrhal fever. The birth, an easy one, occurred, it was judged, at eight months. The child's face was black, and congested with imperfect circulation, and it died about eight hours after birth. The mother did well.

Of the 257 cases of the catarrhal fever treated, three deaths may be reported as a direct result of the disease, one miscarriage, and three deaths from complications. Two were complicated with whooping-cough, and one with capillary bronchitis. The first case resulting in death I have noted. The second and third were children, one 1½ years of age, the other younger. These died directly from the effects of the disease, one after a relapse, and the other early in its onset. The symptoms did not vary from those already noted in the cases treated, the most marked being depression of the nervous system and general prostration—not usual in the early stages of other diseases.

Cases of whooping-cough during the epidemic of that disease, which has lasted now nearly one year, have been very amenable to treatment, no death having occurred in any cases treated from the beginning of the disease. But since the beginning of the epidemic of catarrhal fever, cases complicating that disease have proved much less amenable to the influences of the remedies used, and two deaths have occurred from such complications. One case, a boy one year of age, affected with bronchitis, had nearly recovered, and was able to be out with his nurse, when he was suddenly seized with the catarrh and died within twenty-four hours. The symptoms were similar to those of capillary bronchitis.

I have not attempted to go into any exhaustive analysis of these cases. Some of them I was not able to verify with the clinical thermometer, and in none of them had I the opportunity to study the varying symptoms and temperature during the whole of the twenty-four hours, as may be done in a hospital practice; and yet I have been able to observe enough to convince me that when we have to deal with an epidemic of catarrhal fever, we have to do with a serious malady, either as a primary or a complicating disease. This disease is, according to my experience, much more serious than that of whooping-cough, and less amenable to treatment. The results are liable to be serious, whatever age is affected; but the young, the aged, pregnant women, and those reduced by other diseases, are peculiarly liable to suffer.

My principal object in this brief paper has been to call the attention of the profession to the deleterious influence of this disease upon pregnant women, and to what I deem to be the cause of such serious results.

As to the treatment, I have nothing new to offer. Tonics, particularly the preparations of cinchona, are perhaps as satisfactory as any—as far as constitutional treatment is concerned. Heart tonics are no doubt sometimes indicated. Children often get marked relief from the application of camphorated oil to the throat and chest, and a syrup containing some slightly relaxing agent, as syrup of ipecac or squill, combined with a little camphorated tincture of opium, to lessen the frequency and hoarseness of the cough, and in some degree allay the nervous irritation.

There certainly are few, if any, diseases which occur so frequently as epidemic catarrhal fever, and which so suddenly appear over widely-extended territories.

In view of the seriousness of the results frequently attending these epidemics, it well becomes us to study them in all their bearings. No doubt some of the many pages of medical literature devoted to diseases which a busy practitioner might not see once in a lifetime, might profitably be given to the discussion of this most common ailment.

HISTORICAL NOTE ON PROGRESSIVE PERNICIOUS OR IDIOPATHIC ANÆMIA.

By J. H. MUSSER, M.D.,
CHIEF OF THE MEDICAL DISPENSARY OF THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

In the historical introduction to his article on "Pernicious Anæmia," Immerman[1] gives to Biermer[2] the credit of having firmly established it as an independent affection, and devised a general term for the group of symptoms which go to make up the *ensemble* of that disease. Truly he says, "such cases (as B.'s) had been noticed and described before," and he refers, among others, to a series published by Zenker[3] in 1856. Further, he says, that "Gusserow was really the first to enrich gynæcological literature with an account of several cases of 'extreme anæmia in pregnant women.'" It is my purpose to show that, long before either of these men wrote, the disease in both its forms, in connection with or independent of pregnancy, was not only fully recognized but graphically described by one of our own countrymen.

That Biermer was not the first in the field, is not a difficult task to prove, for Prof. Pepper,[4] in a very interesting article, shows that Marshall Hall was acquainted with the disease, and that Addison admirably described it in his work on "Diseases of the Supra-renal Capsules," published in 1855. Dr. Fred. Taylor,[5] writing on the history of the affection, considered that Addison should "be recognized as the first known observer of fatal anæmia," while, since his time, the disease has never been "lost sight of at Guy's." The earliest publication that Taylor refers to is an abstract of one of Addison's cases in the *Medical Gazette* of March, 1849. He then gives abstracts of sixteen undoubted examples collected from *Guy's Hospital Reports and Records*, as well as from the *London Path. Soc. Trans.* All of which had been published prior to Biermer's article. Drs. Wilks, Moxon, and Habershon were especially well acquainted with the disease, labelling it Idiopathic Anæmia. Earlier yet, in 1823, Andral probably recognized it.

We have had occasion lately to go over the literature of anæmia, and, of the numerous works, to consult Williams' "Principles of Medicine." In the chapter on that subject, he refers to a series of cases of anæmia, generally fatal and connected with pregnancy, published by Dr. Channing, of Massachusetts. The article referred to is printed in the *New England Quarterly Journal of Medicine and Surgery*, No. 2, October, 1842, entitled "Notes on Anhæmia, principally in its connection with the Puerperal State, and with Functional Diseases of the Uterus; with Cases." By W. Channing, M.D.

The paper is divided into two parts; in the first part the cases are given, in the second part remarks are made on them. The first part is sub-divided: 1. Cases of anæmia without any connection with pregnancy. 2. Cases connected with pregnancy. In the first part seven cases are detailed, but no dates are given as to the time any of the patients were under observation; in the second portion of his clinical report, one of the cases (Case XII.) came under his observation as early as 1832. It will thus be seen that Channing took notes of the disease before any were ever published on it, and it is probable that as early, if not earlier, than any other observer, he distinctly recognized it. It was not familiar to Channing alone, but others noted it. Thus Dr. Spear had seen four fatal cases; Stevenson, Jackson, and others report cases. It was therefore a clearly defined disease in the minds of the physicians about Boston, as early as 1832-'35, and although it may have been known to Addison at that time, we have no proof of it, as the first public record of his case was in 1849.

As the journal from which these notes were culled is in the hands of but a few, and as pernicious anæmia is exciting so much attention, I will make an abstract report of Channing's cases, with an analysis of them, and an abstract of his remarks. Then, too, his observation is so truthful, it is but just that his good work should be revived.

The first series of cases—seven—do not demand much consideration, as they were not in all probability cases of what now is termed pernicious anæmia. In all save one, there was a definite cause for the anæmia, while but two of them died.

CASE I.—Was that of a young man, dying of anæmia without organic disease, nor was there any lesion found at the autopsy.

CASE II.—Female, single; disease followed repeated bloodletting; she was not emaciated at the time of death. Autopsy: nothing morbid; heart natural.

CASE III.—Female; married; not pregnant; disease followed menorrhagia; "*rarely known flesh so well preserved midst symptoms so grave;*" complete loss of strength; recovery.

CASE IV.—Anæmia following a pneumonia which occurred three months after confinement; pallor, loss of strength; no emaciation; recovery.

CASES V, VI, VII.—Are similar in that they originated from uterine hemorrhage and are of interest because of some special symptoms common to the three, as the blanched appearance, *profound prostration*, absence of emaciation, and a *sense of beating in the head.* Channing especially notes the appearance of the superficial veins. They are, *as is almost always the case, most visible on the inside of the wrist; they present the appearance of bright pink or rose-colored lines just beneath the skin; some of them seem flat.* As before mentioned, it can not be said any of the above list were cases of idiopathic anæmia, yet in all probability, with the modern means of diagnosis, some would have been thus classified.

Channing remarks, "I might add easily to these cases; but they will suffice to show how strong the anæmic tendency may become from excessive uterine action alone, though connected with a periodical function, and how comparatively safe it (this tendency) is when regarded with the *true disease* which attends pregnancy or follows delivery."

[1] Cyclopædia Pract. of Med., Ziemssen, vol. xvi. pp. 572–602.
[2] Correspondenzblatt f. Schweizer Aerzte. Jahrgang., ii. (1872), No. 1.
[3] See Ziemssen's Cyclopædia.
[4] American Journal of the Medical Sciences, October, 1865.
[5] Guy's Hosp. Rep., vol. xxiii., 3d series, 1878, pp. 183–200.

He then narrates a different class of cases. "These," he says, "have connection with pregnancy, or the puerperal state. At least they occurred during one of these states, or having begun in the first, the disease has continued into the second. The disease in these connections has always been fatal." He says he knows of a well-marked case *that was cured.*

Cases VIII, IX, X.—Cases of Dr. Spear, who had seen five cases. Bloodlessness extreme; animal functions not impaired; no emaciation; rapid pulse; very little suffering; death. No autopsy.

Case XI.—Mrs. W., confined three weeks previous to death; no milk, mammary abscess; no appetite, vomiting, diarrhœa; *tumultuous action of the heart;* mind clear; death. No autopsy.

Case XII.—Seen with Dr. Stevenson and Dr. Jackson; notes by Dr. S. Mrs. H., æt. 25, of robust appearance and uncommon bodily vigor; healthy pregnancy; delivered Dec. 15, 1832, of her third child; no hemorrhage. She died Jan. 3d succeeding, after an illness of sixteen days. I cull from the daily notes the following: Ol. ricini given December 17th. Next day severe diarrhœa. Diarrhœa soon checked; nausea and vomiting occured at intervals; appetite was good; thirst great. Pallor, increasing until death; surface like wax; extremities cold, at times numb; *flushes and chills;* warm moist skin; increase of temperature. Pulse from 120 to 140; at first quick and strong, then feeble and rapid; palpitation; pulsation in head, breast, and arms; sighing, faintness, syncopal attack, overpowering sense of faintness and fatigue; bodily efforts produce panting and distress. Headache, intolerance of light and sounds; slept considerably at first; pupils at first contracted, afterwards dilated; delirium slight towards evening by second day, and by sixth day *excitement of mind, which increased till evening, when she talked incessantly.* Cough throughout; respirations laborious towards end of illness. Urine at first scanty, afterward abundant (4 pts.); frequently passed; turbid and offensive, until four days before death; no albumen. Channing adds that she was not emaciated.

Autopsy.—Adipose membrane full of fat. Serous effusion in cavities of thorax. Heart pale and flabby; no blood flowed on division of its vessels. Spleen rather large. Channing adds to autopsy notes that the textures were dry and pale; blood small in quantity, pale, liquid, uncoagulated.

Case XIII.—Mrs. W., æt. 29. Three children, boys; health good while pregnant. Last labor March 5, 1836; normal; no hemorrhage; abundant milk, which began to diminish by end of second week, and disappeared in third. Mammary abscess second week, discharging the middle of the third week. "We now come to those symptoms which we may fairly call anæmic." Debility; chilliness; irritable state of whole system; pallor; clean, pale tongue; thirst; loss of appetite; constipation; inability to stand the mildest cathartic. Especially noted perpetual consciousness of *sounds in the head like sawing wood,* but auscultation revealed no murmur. Death seven weeks and three days from her confinement, or two days over four weeks from discharge of abscess.

Autopsy (J. B. S. Jackson).—Whitish coagula in long sinus, ecchymoses of internal surface of dura mater. Heart moderately firm, some quite soft light-colored coagula in both sides. Blood unusually pale.

Case XIV.—Mrs. W., æt. 42. Pregnant thirteen times; four miscarriages. Last labor in April. (Notes three weeks before death, October of same year.) Confinement natural, without much hemorrhage. Three days after began to fail. Pallor extreme; skin warm and dry; one or two chills. Pulse ranged about 120, small and irritable; susceptible to noise; irritable temper. Appetite poor, constipation, laxative over-act. In last week nausea. Lost some flesh.

Autopsy (Jackson).—Lungs œdematous. *Heart usual size, flaccid, pale; pallor greater than of voluntary musles, which were more so than usual.* Left ventricle thin; external pericardial surface somewhat red, inner surface stained with blood. *Blood watery, pale red; some flocculent putrilaginous-looking coagula in right side; moderate quantity of fibrin in right ventricle, and pulmonary artery of dull yellowish color and quite soft; some of same in left auricle. Contents of veins appeared morbid—blood mixed with a thick,* whitish opaque fluid like pus. Spleen large, dark *red, soft; on pressing on it a thick grumous fluid forced out in great abundance, leaving proper tissue colorless.*

Case XV.—Mrs. W., æt., 22, delivered lately of second child, never knew disease or trouble. Dr. C. saw her two weeks after confinement. No emaciation; face, lips, tongue, edges of eyelids and angles of eyes entirely white—not pearly white, but *there was the slight yellow mixed with the white which gave it a dirty hue.* Expression anxious; was feeble, with a hollow voice; appetite gone. Slight suffering, but soon took to bed from debility. Noises in the head, puffing or buzzing. No sleep. *One symptom very striking*—color of blood in the veins—bright pink, especially in veins of wrist; vessels flat, not round. *Purpura over extremities.* Pulse always rapid; respiration hurried. Death in three weeks. No autopsy.

Case XVI.—Mrs. K., anæmia began and was fatal during pregnancy. Had had several children still-born; out of health several years. Not well during this pregnancy. Seen April 2d, pallor, sore mouth, swelling and soreness of genitals. April 7, increase of all symptoms; roaring in ears; delirium; diarrhœa; death, April 11.

Case XVII.—Mrs. B., fourth child. Months before last confinement, pallor, ringing in ears, tendency to faintness, palpitation, aphthous mouth, diarrhœa, and vomiting. Delivered October 27, 1841; normal. Ol. ricini third day, followed by diarrhœa, at first not urgent; in a week, very extreme and continued till death. Pulse 120 to 144, very feeble.

Pernicious anæmia, as understood at the present day, in addition to the facts secured by means of the microscope and the ophthalmoscope, is characterized by gradual and increasing pallor, loss of

strength, absence of emaciation, fever of an irregular type; by languor to extreme prostration, giddiness, dulness or feebleness of intellect, somnolence, delirium, coma; by a rapid, feeble, irregular pulse, palpitation of the heart, feeble or absent impulse and first sound, cardiac, arterial, and venous hæmic murmurs; by hemorrhages; by breathlessness on exertion or excitement; by loss of appetite, weak digestion, perhaps nausea and vomiting, or a diarrhœa. It occurs at any age in either sex.; has no positively definite cause, runs its course in from six weeks to six months, and is generally fatal. After death, along with the changes in the blood, there is found fatty degeneration of the heart, the liver, and the kidneys.

Reviewing the last series with the light of the present, it will be seen how admirable is the description, and how wonderfully acute an observer Channing must have been. In the history of each case may be found one or more symptoms, considered at this time as essential; all of the symptoms are noted at one place or another. The record of Case XII. presents a perfect picture of the disease, while the following only pale in the light of it. The thirteenth case might, from the anatomical appearance of the spleen, be judged leucocythæmia, but the clininal notes portray anæmia. The twelfth case is worthy of note from its rapid progress.

In his general remarks Channing refers to the brilliant whiteness, dryness, smoothness and warmth of the skin as a constant symptom; to the absence of emaciation and the occurrence of great debility; to the fact, most characteristic, of death coming on without grave enough symptoms, "that the mysterious malady has not its place in any organ;" to the patient being indifferent, serene, even prophesying death calmly; to the noises in the head; the tumultuous action of the heart; the labored respiration, the nausea, diarrhœa, and uræmia. He speaks of hemorrhage, but does not appreciate its value as a symptom. He lays great stress—more than modern writers—on the appearance of the veins: they are scarce, flat, pink, increased on the wrists; not pathognomonic of fatal anæmia, as he notes this state in other anæmic cases. The pathology he admits is obscure, but thinks the disease has its seat in the small vessels; that the small vessels have much to do with the formation of blood (a shrewd guess), and that their function is subverted; this is true, for one reason, because of the absence of emaciation in the midst of the universal absence of all functions that sustain flesh. He calls attention to the connection of pregnancy to the disease, and claims to be the first to do so. The prognosis is almost always fatal; he knows of one recovery. Treatment is futile; transfusion, the *modern method*, he disapproves of, for it is filling empty vessels of an unlike fluid.

PHILADELPHIA, 3705 POWELTON AVENUE.

CHOREA IN THE NEGRO.

BY WHARTON SINKLER, M.D.,
OF PHILADELPHIA.

THE question of the frequency of chorea in the negro race has excited some interest since Dr. Weir Mitchell sent out his inquiry on the subject through the Smithsonian Institute several years ago. He states[1] that, in answer to his circular, many physicians in the Southern States of this country and in Cuba sent him replies. The almost universal testimony was that the disease was very rarely met with in the negro. Indeed, forty-nine of sixty physicians had never seen a case in the black, and the remainder considered it infrequent in that race. However, some physicians in Virginia wrote Dr. Mitchell that they regarded chorea as common in one race as the other. Dr. G. W. Benton. a physician of large practice in a portion of Florida thickly populated with negroes, told me a few days ago, that in thirty years' experience he had never seen a case of chorea in a black. On the other hand, Dr. S. H. Stout, of Chattanooga, Tennessee, to whom I am indebted for a long and interesting communication on the subject, believes that chorea is quite as common in blacks as in whites; indeed, his figures show that it is more common in the former. He states that he can recall twenty-one cases of chorea which have come under his observation. Of these, thirteen were black females, four white and three mulatto females, and one white male.

Dr. Mitchell states "that the weight of evidence is in favor of the opinion that the black is less liable to chorea than the white." My own experience leads me to the same conclusion. Out of three hundred and nineteen cases of chorea which have been treated at the Orthopædic Hospital and Infirmary for Nervous Diseases in this city, most of which I have seen personally, but one belonged to the negro race.[2] This child was so light a mulatto, probably an octoroon, that it would readily be taken for a white child, and both of its parents were of light complexion.

I have seen in private practice one case of chorea in a black. The following notes were taken when the patient was first seen:

Melinda D., æt. 19 years, born in Washington, D.C. Married. Both parents are dead. She is a negress with dark skin, short woolly hair, and features peculiar to the race. She says that her mother was a mulatto and her father light-colored. She was always delicate as a child, has always been subject to headaches, and been nervous. Six months ago she had an attack of acute rheumatism, and was confined to bed with it for some time. She has been well of it only three months. The menstrual function was established at 14 years of age, and has been regular until about three months ago, when she became pregnant. Since becoming *enceinte* she has not felt well. About four weeks ago, she was struck on the knuckles of the left hand with a stick, the blow caused considerable pain, and the knuckles are still swollen and tender to the touch; a week after this irregular movements began in the left hand and soon extended to the shoulder and

[1] Lectures on Nervous Diseases, p. 143.

[2] According to the *Bulletin of the National Board of Health*, the colored population of Philadelphia is 35,000, and the white population 851,339; or 1 to 24.32. From these figures it is not unreasonable to suppose, if chorea was as common in both races, there should have been a larger proportion of colored persons among the cases of chorea above referred to.

left leg. The movements have been growing worse.

Present Condition (September 24, 1881).—The patient drags the left leg in walking, and when she sits down it is constantly in motion. The left arm is flexed and extended incessantly, and the fingers twisted and turned in every way. The face twitches and she makes a clucking sound with the mouth, but the speech is not affected. Voluntary effort increases the movements excessively. When she attempts to grasp an object, the arm is thrown into frantic gyrations and it is almost impossible to seize the object. While at rest the movements continue, but less violently. There is no paralysis. Dynamometer, right hand, 80°; left hand, 60°. Patella reflex present in the usual degree. She sleeps poorly, being often wakened, she thinks, by the movements. There is no tenderness over the spine. Heart sounds normal. Appetite poor. Bowels regular.

The patient was ordered five drops of Fowler's solution, thrice daily, and was seen at the end of five days very much improved. She was not seen again, as she left for her home in Maryland, in a day or two.

In this case there were two conditions which predisposed to chorea, namely, the attack of acute rheumatism and the pregnancy, and the blow on the wrist may have acted as an exciting cause.

Dr. Skinner, of Glasgow, Delaware, has reported a case of chorea in a black.[1] The patient was a pure negro girl, aged eighteen years. She had had subacute rheumatism, which was followed by bobbing and shaking of the head, and then general chorea. She menstruated regularly. There was an apex murmur heard over the heart, and this persisted after the chorea was well.

This is the only case of the disease in the black I have met with in medical literature.

MEDICAL PROGRESS.

Resection of the Stomach.—Dr. F. W. Koehler reports the case of a woman, aged 65 years, in whom this operation was performed for carcinoma. An incision was made, commencing about two inches below the ensiform cartilage, and terminating about two inches below the umbilicus. After all bleeding points in the abdominal wall had been attended to, the peritoneum was incised, and the stomach partly drawn out of the abdominal cavity. The cancerous mass was found in the greater curvature of the stomach, and extended from near the pyloric end half-way to the cardiac end. On cutting through the wall of the stomach, the cavity of the organ was found occupied by an offensive material, seemingly a mixture of food and cancerous tissue. This was carefully sponged out and the dissection then completed. During the removal of the tumor, three arteries of considerable size, were cut. The blood from these vessels was, however, directed into the cavity of the stomach, and, in a very short time, ligatures were placed around them, and they gave no further trouble. Having completely excised the growth, the cut edges of the stomach were held in accurate apposition, and about forty sutures inserted, they being placed very close together. It should be stated that the sutures were of silk, which had been soaked in melted beeswax, to which some carbolic acid had been added. After all the sutures had been put in, the stomach was returned to its position in the abdomen, and, it being certain that all hemorrhage had been checked, and that the abdominal cavity was absolutely clean, the external wound was closed, and the patient placed in bed, with the foot of the bed somewhat elevated. The operation lasted nearly an hour, and towards the last the patient's pulse was very weak. Stimulants were administered in moderate quantity, and, for a while, the patient seemed to rally nicely—the pulse growing stronger, and she herself growing fretful, declaring her position in bed an uncomortable one, and the covering too heavy. These favorable symptoms were, however, of short duration, and, in spite of stimulants, she gradually grew weaker and weaker, and at 5.30 P.M. expired.—*Louisville Medical Herald*, September, 1882.

Silvester's Method in Drowning at Paris.—Dr. A. Voisin communicated to the Rochelle Congress (*Gaz. des Hôp.*, September 5) the satisfactory results which have attended the great efforts made for some years past by the Paris Municipality to improve the treatment of drowned persons in that capital—efforts which Dr. Voisin has been the chief instrument in carrying out. He now reports the results which have been obtained: 1. The almost absolute certainty of restoring life to persons who have remained under water, or "between two waters," for a period varying from a few seconds to five minutes—no one formerly having been saved after three minutes' submersion. 2. He has succeeded in restoring to life persons who have remained under water from five to twenty minutes. 3. These results have been obtained in individuals not merely in a state of syncope, but in an asphyxiated state, as shown by their violaceous face and lips, their open mouth, and flaccid masseters. 4. These results have been gained in consequence of the excellent arrangements made for the rigorous carrying out of Silvester's method; the effectual application of warmth to the whole surface of the body by calorific generators; the ready access to warm baths and cold douches; the keeping the patient quietly in bed for some hours after his restoration; the whole system being administered by a well-trained and disciplined staff, which is kept in constant readiness.—*Medical Times and Gazette*, September 16, 1882.

Abnormal Presentations in Three Successive Pregnancies.—Under this heading M. Bailly (*Archives de Tocologie*, May, 1882) records the histories of three successive deliveries in which there was prolapse of the cord each time, and the presentations were two breech and one footling. The latter presentation occurred notwithstanding very persistent efforts to maintain presentation of the head by means of a Pinard's bandage worn during the latter months of pregnancy. As there was no pelvic deformity, the author refers this repeated abnormality in presentation to irregular formation of the uterus, in consequence of which the lower part was more capacious than the upper, and thus would accommodate more readily the larger pole of the ovum formed by the breech and reflected limbs than the fundus would. No attempt is made, however, to prove this opinion by actual measurements of the uterus.—*Edinburgh Med. Journ.*, August, 1882.

Treatment of Typhoid Fever with Ergot.—At the meeting of the Académie de Médecine held September 5th, M. Hervieux read, in the name of Dr.

[1] Philadelphia Medical Times, July 31, 1875.

Duboué, of Pau, a note on the treatment of typhoid fever with ergot. Dr. Duboué had been employing this method of treatment for seven years, and has now had a sufficient number of cases to warrant reliable conclusions. He believes that ergot is the most efficacious remedy which we possess to combat all the forms of typhoid fever, even the gravest cases.—*L' Abeille Méd.*, September 11, 1882.

Duration of Pregnancy.—Dr. Helen Idelson (*Petersburgh med. Woch.*) found that, of 4,370 patients in Prof. Horwitz's obstetrical clinic, only 488 could furnish the requisite data for the determination of this question—viz., the exact date of the last day of the last menstruation, and the maturity of the fœtus. After showing the great differences which prevail in various animals, and the great differences between the maximum and minimum admitted by authors in woman, she states as the result of her own researches, that the average period was 278.8 days—viz., a minimum of 226 and a maximum of 328, or a difference of 102 days. She sums up the results of her investigations as follows: 1. The duration of pregnancy amounts to 278.8 days, or nearly forty weeks. 2. The sex of the infant influences the duration, this being longer in female infants. 3. The heavier the child, the longer is the duration.(?) 4. The duration is longer in multiparæ than in primiparæ. 5. The younger the woman, the longer is the duration. 6. The duration is longer in married than in unmarried women. 7. The first movements of the child are felt, on an average, on the 135th day, but later in primiparæ than in multiparæ.—*Dublin Journal of the Medical Sciences*, September, 1882.

Treatment of Ascarides Lumbricoides.—Dr. Guermonprez (*Bull. Gén. de Thérap.*, p. 89, 1882) sums up a long article on lumbricoides thus: 1. Wormseed (whose action is not to be confused with that of santonin) is by far the best medicament for killing as well as expelling round-worms. 2. Santonin does not kill the worms outright, it excites them to livelier movements, and these may reflexly stimulate the intestine so as to expel them; but they may also only exaggerate the evil if there is obstruction. 3. Santonin is, therefore, by no means always to be chosen. It does no harm if the worms are young and not numerous; if they are mature and many, it may be dangerous even in reasonable doses. 4. The purgatives usually given with vermifuges probably do more than the latter to cause expulsion of the worms; simple evacuants will often suffice. 5. Ordinary hygienic means directed to overcoming the lymphatic cachexia of the patient, or simple change of food and abode, may at times be enough to rid him of the worms without any medicine whatever. 6. Hence our treatment should not be the mere routine administration of santonin, but should be determined by the circumstances of the case. Change of air, and of diet, and of simple evacuation, are not to be forgotten.—*Practitioner*, September, 1882.

Extirpation of a Tumor of the Cranial Bones and Meninges.—Langenbeck (*Gaz. Méd. de Strassbourg*, No. 6, 1882,) reports the case of a woman, aged 60, in whom there had developed in 1868, on the frontal prominence, an ulcerating tumor, probably caused by repeated wounds with a comb. It was removed in 1874, in 1878, and again in 1879, trepanning being necessary at the last operation. The tumor again developed, and in February, 1881, had attained the size of the palm of the hand. It was again removed, a large fragment of the bone and dura mater being taken away at the same time, it having been found that the disease had penetrated to the pia mater; a small portion of the latter was cauterized with chloride of zinc. The operation was done without the spray; the wound was filled with a blood clot, and dressed after Lister's plan. The wound remained antiseptic.

Langenbeck recommends the use of the Esmarch bandage for the head. The head is wrapped with gauze, and then the constricting band is carried around the head from the occiput to the forehead.—*Journ. de Méd. de Paris*, September 2, 1882.

The Treatment of Hydrarthroses. — Prof. Volkmann (*Centralblatt f. Chirurgie*, August 19), in reference to a discussion upon this subject at the Paris Société de Chirurgie, observes that in chronic effusion into the joints, he has several hundred times performed puncture of the joints, and followed it up by washing out the cavity with a solution of carbolic acid of from three to five per cent., without having ever met with any accident, or even the least disturbance, after this manipulation. As a general rule, from ten to fifteen glass syringes full, capable of holding each 45 grammes, had to be alternately employed, and the fluid allowed to run away, before this was discharged in a clear condition, showing that the synovial fluid, which the added carbolic acid easily renders turbid, was entirely removed, and the joint thoroughly washed out. In order that the carbolic acid might exert its influence on every part of the surface of the capsule, the joint was then moderately filled by the injection of from one to three syringes full, and then submitted for a short time to movements of flexion and extension. A larger quantity of the solution than this was never left in the joints, and even the slightest symptoms of carbolic intoxication have never been observed. After the washing-out was finished, the limb was always surrounded by a Lister dressing, and kept immovably for some time on a splint. When the effusion has not been of too old a date, recovery has always followed a single puncture and washing-out, although, as a rule, firm bandaging is required for the prevention of relapse, for diminishing the thickening of the capsule, etc. In bad cases, in which there has been great extension of the capsule and ligaments, due to large and old hydrarthroses, the punctures and washing-out have to be repeated two, three, even four times, at intervals of several weeks, before the capsule contracts sufficiently. Iodine injections, which Prof. Volkmann formerly employed frequently, he has now discontinued, as possessing no advantage, and occasionally giving rise to suppuration of the joint. In the worst cases, with great distention and thickening of the capsule, great villous formation, large fibrinous coagula, dropsy, riziform bodies, or *gonitis fibrinosa*, without fluid exudation, Prof. Volkmann always makes a double incision into the joint, and introduces two very short (sufficiently long, however, to completely enter the joint) drainage-tubes, which, after carefully washing out the joint, are left in as long as any secretions issue through them. He is unable to say how often he has performed this operation, which has been by far the most frequently executed on the knee, but certainly more than a hundred times. Even in these cases only disturbances of a very slight nature were sometimes met with, although the procedure was employed in bad cases of disease of the joints when great dropsical effusion was present. The general conclusion, therefore, is that both puncturing and washing-out the joint, and the double incision and drainage, with the aid of antiseptics, may be declared to be operations unattended with danger and followed by satisfactory results. How thoroughly Prof. Volkmann has been convinced of this may be inferred from the fact that for a series of years he allowed Prof. Rancke to attach a manometer to the trocar, in order to institute experiments on the intra-articular pressure in the living man. None of these experiments did the

slightest harm to the persons on whom they were performed; and it is to be much regretted that, owing to its having appeared only in the form of a Latin *Habilitationschrift*, this distinguished work of Rancke, in which he arrives at the most important conclusions concerning the conditions of pressure in the knee-joint and their variations in the various positions of the limb, are so much less known than they deserve to be.—*Medical Times and Gazette*, September 16, 1882.

New Method of Reduction in Dislocations of the Humerus.—Mr. Jas. E. Kelly recommends the following as successful when other plans have failed. The patient should be placed as close as possible to the edge of the couch, on his back, with his head low. The operator places the injured arm at right angles to the body, and standing against it, with his side to the patient and his hip pressed firmly, but not roughly, into the axilla, he folds the arm and hand of the patient closely round his pelvis, and fixes the hand firmly by pressing it against the crest of his ilium. The second stage, during which the reduction is effected, is very simple, consisting merely of a rotation, or version, of the surgeon's body with a force and rapidity which necessarily vary with the peculiarity of the dislocation —some yielding most readily to a sudden and powerful effort, and others to gentle and gradually increasing traction.—*Dublin Journal of the Medical Sciences*, September, 1882.

Obstruction of the Bile-duct: Formation of a Fistulous Communication between the Gall-bladder and Intestines: Cure.—Winiwarter (*Prager med. Woch.*, No. 21, 1882) reports the case of a man, 34 years old, in whom an indolent tumor formed in the hepatic region after what was supposed to have been an attack of perityphlitis; at the same time the fecal matter became clay-colored. The tumor increased rapidly in size; its puncture allowed the escape of two litres of a fluid precisely similar in composition to the bile, and the tumor was reduced in size about one-half.

Three weeks later, the tumor occupied all the right half of the abdominal cavity. The patient was slightly jaundiced, and although he retained a fair appetite, he progressively lost flesh. A diagnosis was made of dilatation of the gall-bladder, caused by obstruction of the bile-duct. The tumor was punctured a second time and four litres of bile withdrawn; in the next fortnight it was necessary to tap the tumor three times again. Finally, Winiwarter determined to establish a fistulous communication between the gall-bladder and the intestines. After having opened the abdominal cavity, he found the gall-bladder with its anterior surface adherent to the peritoneum and to the transverse mesocolon. After puncturing it, he fixed it by sutures to the ascending colon, and this portion of the intestine was fixed to the abdominal walls. Four days later the gall-bladder was emptied by means of a medium-sized trocar and canula, passed through the common wall of the intestine and gall-bladder and the canula left in place. The desired end was not however attained, as the feces remained discolored.

Five months later, the gall-bladder being reduced in size, a second attempt was made; on this occasion the bladder was surrounded by a loop of small intestine, to which it was fastened by sutures, a bistoury passed through the adherent portion, and a drain inserted. A small quantity of bile passed into the intestine, but the greater part escaped through the abdominal opening. The drain was left in place for eight days. At the end of three weeks, the attempt to close the abdominal fistula led to an accidental opening of the large intestine, by which an artificial anus was formed. The health of the patient nevertheless steadily improved, the external fistula became gradually obliterated, and the patient was cured.—*Gaz. Méd. de Paris*, Sept. 9, 1882.

The Treatment of Typhoid.—At the present time the treatment of typhoid fever is an opportune subject to engage the attention of the medical societies of Paris since the French metropolis is threatened with an epidemic of most serious proportions. The subject was brought before a recent meeting of the Académie de Médecine by M. Vulpian, who is applying his experimental skill to the service of practical medicine, and has been recently endeavoring to determine the value of the antizymotic treatment of the disease. The question is one of extreme importance, for it must be admitted that hitherto the advance of bacterial pathology has not resulted in that increase in our power over developed disease which might reasonably have been anticipated from so considerable an addition to our knowledge of the nature of morbid processes. There is strong reason to regard typhoid fever as of parasitic origin, and from this naturally follows an expectation that good may be done by germicide remedies which may reach the intestine without losing their influence. Nevertheless this method of treating typhoid fever has hitherto found little favor at the hands of practical physicians. Proceeding upon these lines, M. Vulpian has tried in turn iodoform, which caused only disgust; salicylate of bismuth, which, although of a certain efficacy, seemed to favor the occurrence of certain complications, such as dyspnœa and nasal and intestinal hemorrhages; boracic acid, which turned out as useless as iodoform; and, lastly, salicylic acid, to which M. Vulpian wished to draw the special attention of the Academy. It may be remembered that this was largely tried, especially in Germany, several years ago, but generally relinquished as being either useless or positively injurious. M. Vulpian found that when it was given in small doses, as one, two, or three grammes in the twenty-four hours, the results were almost *nil*, but if a quarter of a gramme was given every half hour, so that the patient took in the day about six or seven grammes of the pure acid, he believed that there followed an amelioration in the course of the disease both marked and lasting. Some patients presented the accidents of salicylism-delirium, which quickly subsided when the drug was discontinued, or a little albuminuria, but these were exceptional. In most cases these doses were well borne, and the beneficial influence of the drug was shown in improvement of the general condition and of the mental state, and especially in a fall of temperature, which had a permanence not observed with other antipyretic remedies, such as carbolic acid. These results are in striking contrast to those obtained by other physicians who have tried salicylic acid in typhoid. M. Germain Sée, for instance, declared that he had never observed a true and lasting defervescence to be obtained by its use, but only a transient fall of temperature of a few tenths of a degree. It remains to be seen whether the results obtained by M. Vulpian are not due to the series of cases thus treated having been of a mild type. The difference in epidemic severity is a fertile source of fallacy regarding the treatment of typhoid. Experimental physiologists are often apt to draw hasty and untrustworthy conclusions on points in practical medicine.—*Lancet*, September 16, 1882.

Precocious Menstruation.—M. Prochawnick reports the case of little girl, who died at three years of age from acute bronchitis, in whom there had been a discharge of blood from the vagina regularly every four weeks from the time when she was only one year old. The autopsy showed a much higher degree of

development of the uterus than is usual in such a young child, while the ovaries resembled those of a female at puberty.—*Gaz. Hebdom.*, Sept. 2, 1882.

Results of Marriages with Idiots.—Dr. Berkhan, in the *Zeit. für Psych.*, makes some interesting observations as to the capabilities of microcephalic and other idiots to propagate their species. A semi-idiotic man has been married for some years to a healthy woman; there is no family. A healthy man, married to an idiotic wife, has had three children by her; two of them are idiots. These cases support Vogt's view—that while female idiots may bear children, the male are very frequently incapable of begetting them. Marriages are very rare between male half-cretins and healthy women, but are not uncommon between healthy men and semi-cretinous females who may happen to own a little property. The author has never seen the progeny of these marriages arrive at maturity; if not still-born, the children usually die during childhood.—*Dublin Journal of the Medical Sciences*, September, 1882.

Laparo-hysterotomy for Complete Prolapse of Uterus and Vagina.—A remarkable case of the above method of treatment is recorded in a recent number of the *Berliner klinische Wochenschrift*, by Dr. Kuhn, who was induced to practise it by the writings of Professor Müller, of Bern. The patient was a virgin, aged twenty-seven, whose life had been passed in indigent circumstances, and whose physical development had suffered in consequence. She did not menstruate until the age of twenty-one, and this function was scanty and irregular. To remedy this she put herself under the treatment of some quack, and shortly after menstruation had followed this person's treatment (the nature of which is not stated), the uterus and vagina became, within two days, completely prolapsed. The patient was then aged twenty-four, and from that time until she came to Dr. Kuhn, had been treated in various ways, every kind of pessary having been tried without success. When she came under his care she was anæmic and thin. The prolapsus formed a tumor as big as a man's fist. The vagina was completely inverted, and the prolapsed uterus contained in the sac so formed. The hymen formed a fold about a centimetre deep. The cellular tissue between the vagina and the bladder in front and the rectum behind was unusually loose, so that neither of these viscera were prolapsed. In January, 1881, the operations of anterior and posterior elytrorrhaphy and perineorrhaphy were performed, with the result that the patient was for a time relieved; but the artificially narrowed vaginal orifice became again gradually dilated, and in July of the same year the patient returned to the hospital. In August, therefore, with antiseptic precautions, the abdomen was opened. Both ovaries were first removed. Then an oval slice was cut off the fundus of the uterus, so as to give a kind of island of raw tissue surrounded by peritoneum. This raw surface was brought into contact with the abdominal wound, and the uterus then stitched into its new position, so that the peritoneum surrounding the raw surface on the uterus was united to that of the abdominal parietes. The patient recovered well from the operation—though not quickly, for she was about seven weeks in bed, owing to prolonged suppuration of the wound—and the uterus remained in its new position. Nevertheless, the patient was not free from discomfort, for she still suffered from prolapse of the vagina, on account of which a fresh anterior elytrorrhaphy and slight perineorrhaphy was performed. This succeeded, and at length the patient was well. Dr. Kuhn raises the question as to whether the removal of the ovaries was justifiable in this case. His reason for doing it was that the possible risks of pregnancy, with the uterus adherent to the abdominal wall, might be prevented. We must congratulate him, at least, on the docility of his patient; for we doubt whether in England many patients would be found to go through so much for the relief of so little. The case is interesting, also, because it shows how small a part the uterus itself plays in the phenomena of prolapsus. In this case the symptoms continued, although the uterus was immovably fixed to the anterior wall of the abdomen. —*Med. Times and Gaz.*, September 16, 1882.

Sudden Death in Diabetes.—Prof. Frerichs recently read a paper on this subject before the Berlin Medical Society, in which he classified the causes of sudden death in diabetes as due either to paralysis of the heart, syncope, or to gastric disorders, accompanied by pain in the head, delirium, coma, and dyspnœa. He describes a number of cases in which death occurred under these circumstances, the second group being capable of subdivision into a second, in which the one symptom of dyspnœa was absent. He believes that none of the various theories are tenable which attribute diabetic coma to, 1st, lesions of the brain, such as anæmia, hyperæmia, or œdema of the pia mater; 2d, hyperglycosuria; 3d, uræmia; or 4th, fatty embolism. He, however, holds that the presence of acetone in the blood will explain all the symptoms in such cases, and promises a communication on this subject at some future time.—*Journal de Médecine de Paris*, September 9, 1882.

Gastrotomy for Carcinoma; Death after Three Days, from Inanition.—Dr. E. Rochelt reports a case of stricture of the cardiac orifice of the stomach, occurring in a man, 70 years of age, in whom he performed gastrotomy; the operation succeeded in all its details, but the strength of the patient had been so reduced by prolonged abstention from food that death occurred from inanition, no peritonitis having been caused, on the third day.—*Wiener med. Presse*, August 27, 1882.

Cerebral Localization in the Sensory Region. —Theodor Petrina (*Zeit. f. Heilk.*, ii.) reports six cases of his own in which there was disturbance of sensation in the limbs which had lost their motor power, where also after death there was found only lesion of the cortex of comparatively old date, such that the influence of shock or pressure could be excluded, and the symptoms could be referred directly to the lesion. Where sensation was affected the lesions were limited to a rather narrow region. The lower part of Broca's convolution, the convolutions of the isle underlying this, the lower third of the anterior central convolution, the anterior upper surface of the first temporal convolution, the upper third of both central convolutions, and the superior parietal lobule, that is, all the convolutions in the psycho-motor zone around the fissure of Rolando.

The loss of sensation from lesion of these localities consisted in a more or less decided weakening of the sense of pressure, or of pricking, or of locality and temperature, or of several of these. The sense of taste, smell, and color was not affected. These "cortical" anæsthesias differ in this limitation of loss of sensation from those hemianæsthesias which follow a destruction of the posterior third of the posterior limb of the inner capsule (the *carrefour sensitif* of Charcot).

Cortical lesions of the occipital convolutions give rise to no sensory paralysis. He concludes that the most anterior portions of the frontal convolutions and the surface of the entire occipital lobe are not the seat of sensory centres.—*Boston Med. and Surg. Journ.*, September 14, 1882.

Linear Rectotomy.—At the meeting of the Société de Chirurgie, held July 5th, M. Trélat communicated the notes of a case in which he had performed linear rectotomy for the relief of cancerous stricture of the rectum, with the most satisfactory results. The patient was a man, aged 56, and suffered from an epithelioma of the rectum, which originated outside of the anus, and extended beyond the reach of the finger in the interior of the bowel; he suffered from intense tenesmus, which prevented sleep, and wasting diarrhœa, and was in a greatly reduced condition. Without any very sanguine hopes of success, M. Trélat performed linear rectotomy with the galvano-cautery, in the manner proposed by M. Verneuil, the incision starting at the tip of the coccyx, and deeply dividing the rectum as far as the anus. The result of this simple operation was very satisfactory: the tenesmus ceased immediately, and his general condition improved in every way. His death, which before the operation was imminent, was postponed for seven months and a half.—*Journ. de Méd. de Paris*, August 26, 1882.

Cow-koumiss in the Diarrhœa of Infants.—Dr. Senitschenko, of Kasan, reports (*Petersb. Med. Woch.*, Sept. 2) that he has derived great benefit from the use of koumiss prepared daily from the milk of the cow. The infants were from three weeks to one year and nine months old, and suffered from dyspepsia, diarrhœa, or cholera infantum. He began with a teaspoonful every quarter of an hour, and after six hours increased this to a tablespoonful. The children soon became accustomed to it, and under its use the stools soon improved, and the frequent vomiting ceased. The children who were the subjects of rickets ceased to suffer from such constant thirst, while sleep became better.—*Med. Times and Gaz.*, Sept. 16, 1882.

Ether-inhalations in Angina Faucium.—Prof. Concata, of Bologna (*Rivista clin. di Bologna*, No. 3, 1882), has, for the last year or so, been accustomed to administer ether-spray as an inhalation in sore-throat. His method is simple. The patient takes the exit-tube of a Richardson's spray-producer in his mouth; sulphuric ether is sprayed against the pharynx for three minutes, and the treatment is repeated every three hours. Six cases so treated were cured without other means. The cases are all described as "anginas," of what variety is not quite clear. Each case, however, began with a rigor and a sharp attack of fever, with a temperature of 40° C. (104° F.). Swelling of the sub-maxillary glands in nearly all the cases, and pain and difficulty of swallowing in all of them, were noted. The tonsils were always swollen and protruding. One of the patients, a girl of 11, had scarlatina succeeding to the angina. Another patient, whose attack of sore-throat lasted eleven days, and was very severe, had enlarged spleen. Four or five days was the average duration of the attack; one patient, attended by Prof. Concato at home, got well in twelve hours. It is set down as an advantage of the ether treatment that it very speedily puts an end to the local pain and diminishes the swelling, and so quickly restores the power of easy swallowing. In some cases the fever quickly subsided at the same time. The treatment is worthy of further trial.—*Practitioner*, September, 1882.

Suture and Resection of the Intestine.—M. Madelung has recently published a monograph on this subject (*Arch. f. klin. Chirurg.*, xxvii.), in which he analyzes the causes which have lead to success or failure in the cases which have been reported. In the majority of cases he believes that failure has been due to insufficient or improper technical details. He believes, basing his conclusions on experimental data, that the method of *invagination* should be absolutely rejected, even though it has been successful in two cases, one of which was his own: his reason for this opinion, is that the extended separation of the intestine from its mesentery necessarily causes gangrene of that portion of the bowel. He advocates the method of double suture as employed by Czerny. The author advises, at the time of operation, when the diseased intestine has been drawn outside of the abdominal cavity, to close the wound in the abdominal walls by one or two deep temporary sutures. The needles should be extremely fine, round, and curved, as recommended by Larrey, and fine silk should be used for the sutures. The points of suture of the intestine should not be more than three millimetres apart, as it should be remembered that the subsequent meteorism will probably double this distance. To avoid retraction of the intestine, the incision should divide its walls obliquely and not circularly. Madelung proposes the replacing of the metal disks, employed in Bozeman's and Czerny's method, by little disks of calves' cartilage.—*Gazette Hebdom.*, September 15, 1882.

The Urine in Infectious Diseases.—A series of researches, chiefly by Selmi, Brouardel, Boutmy, and Gauthier, have shown that peculiar alkaloids, to which the term "ptomaines" has been given, develop in dead animal tissues which are in process of putrefaction. They present similar chemical reactions to the alkaloids which are found in poisonous fungi. Bouchard, according to the *Revue Médicale*, has suggested that, since the ptomaines only appear in tissues which are charged with microscopic fungi, it is permissible to suppose that the cadaveric alkaloids are merely the products of the "disassimilation" of vegetable organisms. Further, if bacteria living in the dead animal tissues produce bacteria, it is possible that the same bacteria, growing in a living organism, may produce substances analogous to ptomaines. Bacteria seem to appear in the living body in all infectious diseases. Hence M. Bouchard has endeavored to ascertain whether, during the course of infectious diseases in the human subject, any trace of these alkaloids can be found in the urine. His observations were made on cases of typhoid fever, "infectious pneumonia," and "infectious pleurisy," whatever the latter disease may be. All were dieted and no medicines containing alkaloids were given to them; and the urine was carefully preserved from putrefaction. An analysis showed that they contained alkaloids having all the characters of ptomaines. A series of normal urines examined, and specimens from patients suffering from pulmonary emphysema, valvular disease of the heart, presented no trace of alkaloids. The conclusion, however, is not beyond question, since M. Pouchet has affirmed that the presence of alkaloids may be constantly demonstrated in normal urine.—*Lancet*, Sept. 16, 1882.

Preventive Treatment of Abscess of the Breast.—Prof. Le Fort attributes the ordinary occurrence of mammary abscess in the superior outer portion of the breast to the pendant position of this portion of the gland. To avoid, therefore, the occurrence of mammary abscess, he advises that the breasts should be drawn to the median line and fixed there by a body bandage. By this means the breasts are prevented from hanging down at the sides, and the dragging due to their weight is avoided.—*Journal de Médecine de Paris*, September 9, 1882.

Morphiomania.—In a paper read at the Rochelle meeting (*Gaz. Hebd.*, September 2), Dr. Landowsky drew attention to the fact that besides the cerebral disturbances caused by the excessive use of morphia,

venous congestions were also induced by it, which in the long run led to permanent lesions, especially of the kidneys, inducing albuminuria or glycosuria. He also called attention to the too great frequency with which injections of this powerful agent are entrusted to inexperienced nurses and the patients themselves.—Prof. Verneuil remarked upon the frequency with which patients who come to consult surgeons have before that time been trying and abusing the hypodermic method. In their case a condition is generated, which at the time they may have to undergo an operation may compromise their existence by their intolerance of chloroform, or later on expose them to the occurrence of fatal erysipelas or diffuse phlegmon—not that they are still under the influence of morphia, but have become through it the subjects of glycosuria, albuminuria, etc. —M. Rochard, in relation to the colossal doses that are sometimes employed, cited the case of a lady who injected as much as three grammes (forty-five grains) of the hydrochlorate of morphia daily. He further remarked that even when large doses are injected, neither constipation, loss of appetite, nor any other affection of the digestive organs is produced, while even small doses taken into the stomach produce these effects.—Dr. Landowsky has observed in several women, who accustomed themselves to excessive injections, that small mucous bursæ formed on the sides of the first phalanx of the index and median finger, which are due to the manner in which these morphiomaniacs practise the injection rapidly with one hand when they are alone. In doubtful cases, the existence of these bursæ may throw light on the diagnosis.—*Med. Times and Gaz.*, September 16, 1882.

SYPHILIS AND ALCOHOL.—In a recent memoir published in *La France Médicale*, M. BARTHÉLEMY calls attention to the exceptional gravity of syphilitic skin eruptions in patients addicted to the habitual use or abuse of intoxicating liquors. The observations which he gives were all collected while the author was chef de clinique in Fournier's service, and relate exclusively to the waiter girls employed in "brasseries," who receive the name of "inviteuses," because it is their business to have as much liquor ordered as possible. In the pursuit of this métier, they are obliged to drink large quantities of intoxicating liquors; one of them absorbed in one day forty-two glasses of beer, five liqueurs, and one "grog Americain;" this, of course, was an exceptional case; but most are continually drinking, in order to incite customers to order for them. When these girls contract syphilis, every symptom, even the primary chancre, is of gravity. In one case the eruption did not disappear from the cutaneous and mucous surfaces for ten years. The chancre in one case spread and became as large as a silver dollar, and was surrounded with an extremely indurated border, and notwithstanding treatment, the chancre lasted three months. In another case (Obs. III) the chancres were still present when a generalized papulo-hypertrophic eruption appeared over the whole body.

It was remarked also that secondary and tertiary eruptions appeared much more rapidly, were of greater intensity, and of longer duration.—*Med. and Surg. Reporter*, September 2, 1882.

HYGIENE OF THE ELECTRIC LIGHT.—DR. SIEMENS, in his able address at the British Association, justly lays stress on the hygienic advantages of the electric light. He considers that the principal argument in its favor is furnished by its immunity from products of combustion, which not only heat the lighted apartments, but substitute carbonic acid and deleterious sulphur compounds for the oxygen upon which respiration depends. The electric light is white instead of yellow, and thus enables us to see pictures, furniture, and flowers as by daylight; it supports growing plants instead of poisoning them; and by its means we can carry on photography and many other industries at night as well as during the day. The objection frequently urged against the electric light, that it depends upon the continuous motion of steam or gas engines, which are liable to accidental stoppage, has been removed by the introduction into practical use of the secondary battery. This, although not embodying a new conception, has lately been greatly improved in power and constancy by Planté, Faure, Volckmar, Sellon, and others, and promises to accomplish for electricity what the gas-holder has done for the supply of gas and the accumulator for hydraulic transmission of power. It can no longer be a matter of reasonable doubt that electric lighting will take its place as a public illuminant, and that, even though its cost should be found greater than that of gas, it will be preferred for the lighting of drawing-rooms and dining-rooms, theatres and concert-rooms, museums, churches, warehouses, show-rooms, printing establishments, and factories, and also the cabins and engine-rooms of passenger steamers. The extreme brightness of the luminous parts is, however, dazzling and unpleasant.—*British Medical Journal*, September 2, 1882.

ATTENUATION OF VIRUS.—At the International Congress of Hygiene, recently held in Geneva, M. PASTEUR read a paper on this the most valuable outcome of his remarkable researches on chicken cholera. He showed that a virus, even when depending upon an organism, can, without any marked change in its general morphology, be so attenuated in its virulence as to produce germs in culture fluids which are capable of communicating only a transient malady robbed of the fatal dangers attending the access of the virus in its natural state.

This modification, or attenuation, of the virus is produced by its simple exposure to the oxygen of the air, and can be produced not only in the case of the virus of chicken cholera, but also in the case of splenic fever, and it is probable that future studies will still further extend the list of maladies which can be thus deprived of their dangers. M. Pasteur's communication is, however, mainly concerned with the application of this principle of attenuation to a new virus—that of hydrophobia. On the 10th of December, 1880, a patient, after having been bitten by a mad dog, died of hydrophobia in the Sainte Eugénie Hospital in Paris. Two rabbits inoculated with the buccal mucus of this case promptly died, and M. Pasteur was able to recognize the presence of a specific organism in their blood. This organism was capable of cultivation and, when inoculated in the blood of other rabbits, proved rapidly fatal. It was then found that while this poison was not harmful to adult guinea-pigs, it soon destroyed these animals when they were only a few days old, the virus at the same time greatly increasing in virulence as regards guinea-pigs, while it nearly lost its poisonous property for rabbits. Oxygen, also, in the case of this salivary virus, as in the virus of chicken cholera, is capable of producing attenuation of virulence, and rabbits inoculated with this harmless virus are able to resist the action of virus in which the original virulence has been retained.

The value of this method of attenuation of virus so as to produce a protective vaccine is even more firmly established by the discovery by Pasteur of still a fourth virus, that of the typhoid fever of the horse, which also can be rendered harmless.

It would seem, therefore, that in this method of attenuation we may hope to find a means of preventing disease as valuable as the discovery by Jenner, of the protective power of vaccinia.

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CONCUSSIONS OF THE SOLAR PLEXUS.

THERE are so many varied consequences that may follow an injury or contusion of the abdomen, the enclosed viscera are, comparatively speaking, so poorly protected, their serous covering is so extensive, their nervous and vascular supply so large, that such accidents are among the gravest which fall under the notice of the physician or surgeon. In the vast majority of cases, however, they produce their dangerous or fatal results in some well-understood manner; a rupture of the peritoneum or of the intestine, of the stomach, liver, or kidney; extravasation of blood into the peritoneal cavity; peritonitis and speedy death, summarizing perhaps the usual course of the graver class of cases. In milder instances, rupture of muscle, effusion of blood into the abdominal parietes, followed by hernia, by abscess or by sloughing, constitute a not infrequent series of symptoms. Or again, as in two cases reported in a recent issue of THE NEWS, a circumscribed peritonitis may occur and run a favorable course, terminating in recovery.

None of these, however, have the medico-legal interest and importance which belong to those cases in which death follows immediately upon the receipt of an abdominal injury, and yet in which careful post-mortem examination fails to reveal the slightest evidence of traumatic or other changes. There is certainly a wide-spread belief, both within and without the profession, that death does result from such blows, through their effect in some mysterious way upon the solar plexus and its numerous branches, and yet we are compelled to admit, after a careful survey of the literature of the subject, that no well-authenticated instance of the kind has yet been recorded, unless we except the one reported in our present number by Dr. Beach. Those contained in the various works on Medical Jurisprudence are, without exception, either so carelessly reported or devoid of pathological detail as to fail to carry conviction, or else, as in the cases of Mr. Wood, quoted by most of these authorities, there were lesions discovered sufficient in themselves to produce death.

It could not, of course, be denied, that in an individual with a weak heart, with fatty walls, or with insufficient valves; with atheroma of the cerebral bloodvessels; or with advanced structural changes in any important viscera, an abdominal contusion, with the sudden gasping for breath, the rapidly increased vascular tension produced by it, and the subsequent condition of exhaustion might precipitate a fatal result which would otherwise have been delayed. In such cases, however, an autopsy would disclose the underlying pathological condition. In the absence of any such antecedent disease, and of any evidence of structural injury from the blow itself, it is a very serious matter to pronounce upon the cause of death, especially when, as in the case in question, the life or liberty of a fellow-being depends upon the medical opinion.

While it may be conceded that, in a certain number of instances, no other explanation appears to offer, it must at the same time be remembered that our methods of investigating pathological processes are not yet so exact as to detect with certainty all possible causes of death, and that it is our professional duty, above all in medico-legal cases, to state with positiveness only that about which there can be no reasonable doubt.

We can however say that the most probable explanation as to the mode of production of sudden death in these cases of blows on the epigastrium, as well as when caused by the drinking of large amounts of cold water, is to be found in the classical experiment with which the name of Goltz is connected (klopfversuch). It is found that when the pleuro-peritoneal cavity of a frog is opened and the surface of the intestine smartly tapped, after a few moments the heart is arrested in diastole. If, however, the mesenteric nerves, the ganglionic cords on each side of the aorta, the spinal cord below the medulla, or the vagi nerves are divided, no such effect is produced, thus proving that the arrest of the heart is due to reflex stimulation of the cardio-inhibitory centres in the medulla, the afferent fibres passing through the mesenteric nerves and sympathetic while the efferent impulses pass through the pneumogastric. Bernstein has also shown that the same effect will follow electric stimulation of these nerves.

Though the same general conditions hold in mammals, its demonstration is a matter of much greater difficulty. Asp has, however, been able to produce reduction in the rate of pulsation by stimulation of the central end of the splanchnic nerves; from analogy, therefore, the same *modus operandi* may with safety be concluded to hold.

The nerves of the abdominal cavity are not the sole paths through which the reflex inhibition of the heart may be produced. Thus in rabbits, the heart is arrested in diastole when the animal is caused to inhale the vapor of ammonia, the efferent path in this case lying in the fifth pair of nerves; and it is probable also that the sudden arrest of the heart in chloroform inhalation may be produced in the same manner; while in the frog, crushing the foot with a blow is often capable to stopping the heart.

In ourselves, fainting from pain is doubtless produced in the same manner, through reflex inhibition of the heart.

As regards the dangerous effects produced by the drinking of ice water in large amounts, when in a condition of exhaustion, we recall one instance where loss of consciousness and extreme slowing of the heart were produced by the ingestion of ice water during a long swimming match; and the trainer, who was ignorant of these physiological principles, was charged with poisoning his man.

DRUGGISTS AS VENEREAL SPECIALISTS.

THE various evils to the profession and to the community arising from the wide-spread practice of "counter-prescribing," have been repeatedly set forth in medical and lay writings, and are, indeed, so obvious that, as a rule, they require no explanation. There is one class of patients, however, who are pre-eminently the victims of this unlawful custom, and whose sufferings do not fall under the notice of the public, or even of the profession at large.

The young men among the poorer and middle classes who contract some form of venereal disease, constitute a very large percentage of the whole number, and among them there are few who do not, at least at first, apply to some apothecary for relief. The reasons for this are to be found in their limited means which often do not permit them to pay a physician; in their inability to spare the time from their work to attend at a dispensary service; and in their natural dislike to confide in the family doctor, or in their older and more experienced friends. Under these circumstances they seek a prescribing druggist—who is only too easily found—and ask for something which will cure their ailment. The routine practice, and we speak after a large experience with such cases, is that the patient names what he believes to be the disease with which he is affected, and that this is almost or quite all the information which is imparted to the druggist, who then proceeds to hand out the particular mixture which constitutes *his* remedy for that malady. As such patients are usually suffering for the first time, are ignorant of all technicalities, and often, unconsciously reverting to first principles, include under the generic term of "pox," all the varieties and complications of gonorrhœa, chancroid, and syphilis, it can readily be understood that no small amount of evil results from this procedure. A catalogue of the gross and altogether inexcusable blunders, which in hospital, dispensary, and private practice, have fallen under the notice of one or two physicans in this city during the past twelve months, would be quite sufficient to demonstrate the importance of the matter, and we are glad to learn that an effort is being made to obtain the evidence in such shape as to warrant its publication with names and addresses.

Apart from the unnecessary suffering to the individual, which moralists might assert to be a benefit in disguise, the harm and danger to the community are not to be disregarded. Such patients, unwarned and unenlightened, are but too often the accidental means of extending these diseases to innocent and equally uninformed people, and sometimes to whole families. It is impossible to estimate the injury which has thus needlessly been inflicted upon, first, the patients themselves; next, their immediate relatives or friends; and, finally, upon an undefined and extensive outside circle.

We are cognizant of cases where the most serious complications of gonorrhœa have been developed, and the patient's life imperilled by this form of malpractice; we know of one where syphilis was allowed to progress to the production of ulcerative lesions, followed by ineradicable deformity, while the patient was being treated with urethral injections; we have seen several—a large number—in which unrelieved phimosis and balanitis, treated with pastes and emulsions of copaiba, have gone on to partial destruction of the affected organ; one in which a specific iritis destroyed sight, and another, in which retention of urine from old stricture, almost killed the patient, no examination of any sort having been made in either instance, and the treatment in both being directed to lesions which did not exist. Such cases come under the notice of every one connected with a venereal dispensary or hospital ward, and in numbers which warrant our calling the attention of the profession to the subject. We are convinced that the only course which will result in an abolition of this outrageous form of swindling is one which aims at publicity, and we shall shortly have more to say in regard to the best means and methods of attaining this end.

DR. REITER'S REMEDY FOR INVETERATE PSORIASIS.

In that eccentric, but interesting periodical, Squibb's *Ephemeris*, we find a letter from Dr. Reiter, of Pittsburg, giving an account of a remedy for psoriasis, which he had used successfully *in propria persona*, and in many other cases. Any one having experience with inherited, or long-standing psoriasis, will admit the obstinacy with which it resists the action of remedies. Arsenic, at the present time, is the remedy most esteemed in its treatment. Dr. Reiter himself a sufferer to an aggravated extent, and inheriting his malady from several generations of sufferers, was finally cured by a tincture of burdock seed, recommended to him by an old farmer. The suggestion of the farmer was unconsciously based on the old therapeutical maxim—a remedy which has cured a case of disease, must also cure analogous cases. The precept proved to be sound in this instance, for the farmer's remedy having cured his own case was equally successful in Doctor Reiter's case. The official designation of burdock is *Lappa*, and it is borne on the secondary list of the pharmacopœia of 1870. The seeds are employed by Dr. Reiter in the form of a saturated tincture. Dr. Squibb in commenting on this preparation, suggests that a tincture be prepared in the proportion of two ounces of the crushed seeds to a pint of good whiskey, of which four fluiddrachms are given, well diluted, three times a day, after meals. Experience has shown that the remedy must be faithfully administered for a long time—for many months if necessary, in the more inveterate cases. The digestive functions, and the skin, are much improved by the remedy. The only constituents to which the curative results can be referred are an essential oil and a resin.

We find that burdock has long been used as a remedy in chronic skin affections, in strumous and rheumatic diseases. That it should have been kept on the U. S. Secondary List, is proof that its virtues are not highly esteemed. It has been relegated to domestic practice. If, however, it can be shown to cure cases of psoriasis of long standing, it deserves a more prominent place.

THE TREATMENT OF DIPHTHERIA BY LARGE DOSES OF CALOMEL.

There have always been advocates of this practice. In the letter of Dr. Reiter, communicating to Dr. Squibb his experience of the use of burdock, and published in the *Ephemeris*, we find the calomel treatment of diphtheria strongly supported. Since Dr. Squibb endorses Dr. Reiter as a practitioner of experience, and of good judgment, we must give his suggestions respectful consideration. Whilst we may profit by his practical therapeutical experience, we need not adopt his pathological views. Dr. Reiter says: "I have this winter verified my discovery perfectly. *Diphtheria is a functional disease of the liver.* . . Here you have the remote cause—*inspissated* blood. . . The proximate cause—*too much fibrine in the blood.*" The treatment —for the justification of which, we fear, the theory was invented—consists in the administration of calomel—one scruple the first dose, and then ten grains every hour until the symptoms improve, the fever subsides, the exudation stops spreading, and is detaching, etc. Says the old Doctor:

"Dear Squibb, smoke that in your meditative pipe—a boy of eight years with a half-ounce of calomel in his *prima viæ, not prostrated*, but *restored.* Trousseau is the only medical writer I know of who has not only seen, but has most accurately described all the protean forms of this most fatal malady—and not one of them escapes a clear and rational explanation by my etiology. I have read again and again his most graphic articles on diphtheria, and it pains me to observe how he staggers in trying to reduce his notions to a rational philosophy, lacking the light of a sound etiology."

Dr. Reiter argues in this circle: diphtheria is a disease in which the "power of destroying fibrine," ordinarily possessed by the liver, is lost, and hence the deposits in the throat. To cure such a disease, this function of the liver must be restored, and as calomel possesses this property, it must cure this disease. "Where a case has not reached a fatal condition," says Dr. Reiter, "from twenty-four to forty hours' medication effects a cure." We may not agree with the pathology; but what shall we do with the facts? If it be true that so large a proportion of the cases of diphtheria yield so soon to this treatment, we must admit that there is truth in the treatment, even if we deny the relevancy of the explanation. Further experience with a large number of unquestionable cases of diphtheria is necessary to establish in any, the exact value of the calomel treatment.

THE INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE.

We have just received the third volume of this extraordinary work. The whole medical world is debtor to Dr. Billings for his wise forethought and wide views. We have so often commended it and so often urged its support by liberal Congressional appropriations, that it is but iteration to express any opinion. Not only has no such work ever been attempted before, but probably none ever will be again, for a century at least, for this work is monumental and complete. It is indispensable for every medical writer and investigator.

The present volume consists of 1,020 pages quarto, with over 9,000 author titles and nearly 9,000 sub-

ject titles. It contains also over 4,000 titles of medical portraits, a feature in which this library excels all others, so far as we know. The volume extends from Cholecyanin to Dzondi.

The three volumes thus far published contain nearly 31,000 author titles, and over 129,000 subject titles. The mere enumeration of these figures prove the justice of the adjective we have used—monumental.

We regret that the appropriation is so small that the number of copies of Volume III. which it permitted to be printed is much less than that of the preceding volumes. We are informed, however, that the Government Printer has on hand a few extra copies which can be purchased at the nominal price of two dollars per volume. Persons who are so unfortunate as to be unable to procure copies would do well to apply for them to their representatives in Congress who would thus be informed of the extent of the demand for these volumes among their constituents in the profession, and be prepared to vote accordingly at the next session, when a bill will probably be introduced to publish an additional number of copies of this work for distribution by members of Congress.

We trust that the profession generally will use its influence in favor of a liberal appropriation for subsequent volumes.

It is proper at this time to call attention to another book, published in London—Dr. Neale's *Medical Digest*—which has a somewhat similar design to that of the Index Catalogue, but is constructed on a widely different plan. The second edition is just published and it will be a most useful companion to every writer and student. It is an octavo of over 700 pages with a very full and complete index. The Digest is not an index to all medical literature, or to a given set of journals, but a selected index as its name implies. It contains about 120,000 entries of articles, classified under proper headings, gathered from eleven of the leading British medical journals of the last forty years, and the *American Journal of the Medical Sciences*, as the representative of American medical journalism. Few men, writers, students, or simple practitioners, but will find in it a mine of wealth. Any one who will use it merely as a means of reading on his cases, whether for writing or for self-improvement will soon discover its great value.

WHOLESALE HUSBAND-POISONING.

Insurance companies, it is well known, as a rule will not insure wives for the benefit of their husbands, since wife-murder in various forms is so often resorted to, even in the absence of any such pecuniary stimulus. Not long since, however, we were startled by a despatch in our morning papers to the effect that over one hundred husbands in Hungary had been successfully, not to say happily, despatched by their enterprising wives. The Vienna correspondent of the *London Standard* (according to the *Tribune*) gives the details of this most remarkable of crimes.

In the little village of Melencze lived a certain old hag, Thekla Popov, who had reached the scriptural limit of three score and ten years, but who lacked the virtues pertaining either to her age or her sex. She figured as the "Married Woman's Best Friend," and justified her title to those who wished to complete the cycle of maid and wife by a speedy widowhood. She concocted her poisons and conducted her business so skilfully that for a long time no suspicion fell upon her in spite of the fact that her fame as a vendor of such elixirs must have been known to many a voluble woman, and the drugs must have been used again and again in most cases, lest a too sudden despatch of the unfortunate victims should betray her. Wronged maidens sometimes obtained her medicines, but wives, especially if young and comely, were her chief and most desired patrons. The cost, in view of the risk, was very moderate. Twenty-five to fifty dollars was the usual fee. On the average, husbands, even with an active market, only fetched thirty-five dollars. Her daughter, who was her only confederate, finally quarrelled with her and exposed her horrible practices, and the exhumation of the bodies of her victims confirmed the story. So far as we know, the practices of this Hungarian gypsy have been confined to her own village.

LESIONS OF THE ISLAND OF REIL.

In the subjects of aphasia, the lesions are not often limited to Broca's convolution, but also involve the island of Reil. The observations proving this have been made by Charcot, Meynert, Lépine, and others. The function of the insula has been lately studied by Dr. Perdrier, experimentally and clinically. He finds that destruction of the insula in animals does not affect motility or sensibility, but that it is a psychical centre, purely. In three examples in man of lesions of the insula absolutely limited to this area, there was hemiplegia, in which the arm was more decidedly affected than the leg. The paralysis of motion is complete, and there are no contractures or disorders of sensibility. The muscles of the trunk and of the face are not affected.

TREATMENT OF MENIERE'S DISEASE.

Dr. Nakachian has brought forward a number of new cases in illustration of the good effects of quinia in Ménière's disease, as originally shown by Charcot. The quinia is given in doses of 60 to 80

centigrammes (10 to 14 grains) per day for fifteen or twenty days. Then an interval of the same duration as the treatment is allowed, and the administration of the quinia is again resumed in the same way as at first. There are two or three or more of such periods of treatment, with the intervals of respite. During the administration of the remedy, the symptoms of the disease—the noises in the head and the vertigo—are increased; but during the interval a marked improvement is observed, each time greater. Recently Charcot has tried salicylate of sodium, and it is found to have the same effect as quinia. Probably other remedies producing tinnitus and vertigo will have some curative influence, the disturbance caused by the remedy supplanting that caused by the morbid process.

REVIEWS.

L'Instrument de Molière, traduction du Traité de Clysteribus de Regnier de Graaf (1668).
The Instrument of Molière, a translation of the Treatise on Clysters, by De Graaf. 8vo. pp. 127. Paris: Morgand & Fatout, 1878.

The French are a queer folk in many things. The syringe plays a not unimportant *rôle* in the family, literary, and dramatic life of our Gallic neighbors. No bride considers her *trousseau* complete without it; it figures largely in literature; and we remember to have seen on the stage of the Châtelet Theatre, in the "Sept Chateaux du Diable," one of the oddest scenes we ever witnessed. The gourmand, having over-eaten, called the doctor, who had barely closed the door, when there entered a procession of boys and men, beginning with a very small boy and ending with a very tall man, every one of whom, to the number of fifty or sixty, bore a syringe, likewise graded from the smallest size made to some big tin ones from eight or ten feet long. The terror of the patient, who fled in dismay before the agents of such decided medication and was followed in all his intricate doublings by his snake-like column of pursuers, was the source of unbounded merriment to the audience, in which women largely predominated. Louis XIV. gave more frequent audience to his Enema-Ministers than to his Ministers of State; the *Malade imaginaire* comforted himself after the fashion of the grand monarch, with clysters emollient, purgative, astringent, anodyne, detersive, carminative, refreshing, consolidating, or nourishing, according to necessity or whim. Molière so often introduced the instrument in his comedies that our translator ventures on a new caption to De Graaf's treatise, derived from the great satirist, and he describes the seventeenth century as "the age of clysters and of perruques."

De Graaf's treatise is at once instructive and amusing. With Plutarch, Pliny, and Galen, he traces the origin of the clyster to the Egyptian Ibis, which, when "incommoded by an excess of noxious humors, fills its bill with sea-water, introduces it into the intestine, which it sprinkles abundantly in order to start on its path the annoying burden." The polypharmacy which characterized the disgusting messes to be swallowed, was no less marked, though far less repulsive, in the enemata, many of them counting scores of various medicaments. For nourishing enemata, upon which he casts a rather doubtful eye, he commends wine, milk, bouillon, eggs, etc., which should be injected with sufficient force to pass the large and reach the small intestine, though he doubts the possibility of its passing in ordinary circumstances the ileo-cæcal valve, that "barrier of the apothecaries" or "pharmaceutical columns of Hercules," as were its amusing and significant titles in that "age of clysters." Some subtile portion of the clyster he thinks might traverse the pores of the bowel, enter the blood, give temporary vigor to the heart, but would give no veritable nourishment; and he instances Democritus who, at the age of 109, when death was under his roof, kept him at bay for three whole days by the mere odor of hot bread [toast?] so that he might survive the pending *fête* of Ceres, lest his sister could not make her proper devotions to the Goddess.

In one chapter, we find that the antiquity of the suppository is proved by an allusion to it as a usual remedy: and also a very circumstantial account of one, which being introduced into the rectum, in the time one could say a *Pater Noster* and an *Ave Maria*, passed upwards to the stomach and was vomited. In truth the very name of suppository is derived from the fact that it supplanted (supponere) clysters.

De Graaf also devised a special syringe with a flexible tube, to make which he used at first a bird's intestine, but afterwards leather, either of them a poor substitute for our modern rubber tubing. A modification of this tubing also served him for direct transfusion of blood. For this purpose he proposed the bird's intestine, terminated at each end by a quill for insertion into the bloodvessels. Verily, there is nothing new under the sun!

The present edition is beautifully printed, and is ornamented with sundry little tail-pieces appropriate to the subject, chiefly the syringe, the bed-pan, and the *pot de chambre* not infrequently in use by little winged cherubs; but in one instance, a little Cupid, hastening towards the too-distant vessel is evidently in the greatest danger of a lamentable accident from vesical overflow—the less threatening, however, since he has no clothing to speak of, the injury to which could excite maternal wrath.

CORRESPONDENCE.

A PLEA FOR BLOODLETTING.

To the Editor of The Medical News.

Dear Sir: Amongst the editorials in The News for September 16, in reference to "the Treatment of Acute Sthenic Pleurisy," I notice the query: "In view of the above, may we not inquire if it has been wise to abandon venesection altogether in cases of acute sthenic pleurisy? Have not effusions, serous and purulent, been more frequent and extensive since venesection has not been employed?"

So far as my observation and experience extend, I am prepared most decidedly to answer the latter in the affirmative. To my mind, the inquiry is opportune. The inquiry should be generally circulated throughout the profession: "Have we acted wisely and honestly in altogether abandoning general bloodletting, not only in the treatment of acute pleurisy, but in many other diseases assuming a like sthenic aspect?"

When I entered upon my professional labors, a physician was regarded as deficient in his *armamentarium* without lancet and cupping instruments. But the adage, "Better be out of the world than out of fashion," has shown its full force when applied to the medical profession in this particular. Fifty years ago, about the time of my pupilage, bloodletting was the panacea of the age; its use was not confined to the medical man, but the 'squire, blacksmith, etc., were prepared to bleed in emergencies!

It is not surprising, therefore, that venesection, under such circumstances so indiscriminately used by those too altogether ignorant of the laws of health or disease, should have fallen into disrepute, but it does not logically follow that it should be consigned to a grave among the "lost arts."

I have in mind a number of instances, coming within the compass of my own observation, of cases contemplated in the query. While practising in Oskaloosa, Iowa, some twelve or more years ago, pleurisy, pneumonia, and pleuro-pneumonia were quite prevalent in that locality. Many were treated by physicians who, according to "fashion" had discarded bloodletting as a therapeutic agent altogether, some of whom, particularly those of the younger members, had never witnessed phlebotomy. These cases generally progressed slowly, attended often with alarming sequels—sometimes necessitating paracentesis—others were treated from the onset, energetically by bleeding, either general or topical, or both; not a single case thus treated, to my knowledge, was followed by those distressing conditions. The contrast was very marked. Subsequent experience and observation have served to establish and confirm my conviction, that in the neglect of this therapeutic agent physicians often fail to give their patients the best means of relief and recovery. Respectfully,

J. P. Gruwell.

Salem, O., September 28, 1882.

POISONING BY BOSCHEE'S GERMAN SYRUP.

To the Editor of The Medical News.

Sir: The following case may be of interest to the profession. A short time ago, I visited a patient at about 10 A.M., and while examining him, my attention was called to an infant three weeks old, whom the mother said was dying. Upon hasty examination and inquiry, I was at a loss to account for its alarming condition; but being struck by its marked cyanotic appearance, slow respiration—three or four a minute—contracted pupils, responding sluggishly and feebly to light, and pulselessness, I asked the mother if she had given it anything. She replied that on the afternoon of the previous day she gave it three or four drops of Boschee's German Syrup for a "slight cold" it had had for a day or two. This statement of the mother at once threw a flood of light upon the case, as the symptoms were undoubtedly those of opium poisoning. The alarming symptoms came on about an hour after the administration of the syrup, and had continued ever since. The child had always enjoyed good health, excepting the "slight cold" already referred to. There was no discoverable pulmonary or bronchial lesion. Atropia and stimulants produced a slight but transient improvement in the symptoms, and the child died in a few hours, about thirty after the administration of the syrup. Respectfully,

H. C. Shuttee.

West Plains, Mo., September 12, 1882.

NEWS ITEMS.

Mississippi Inspection Service.—This service, which was instituted for the season by the National Board of Health in May last, was discontinued on September 30th. It consisted of a supervisor in New Orleans, whose duty it was to investigate and report upon suspicious cases of fever occurring in the city, and to announce the presence of yellow fever immediately on its recognition. The Board of Health of Louisiana pledged itself to afford this officer facilities for the performance of his duty. The dread with which yellow ever is regarded in the Mississippi valley is such that even a rumor of the disease in New Orleans is followed by depression and relaxation of business interests. The suppression of false alarms was a material gain to commerce, and was recognized by the State Board, although it is said that in a suspicious case which was investigated on September 12th, it failed to redeem its pledge to the supervisor of the National Board. While commercial interests, on the one hand, derived benefit from the presence of this officer, neighboring States looked to him for a notification of the existence of real danger. Under his supervision inspections of freight on river-boats and railroads were carried on, the certificate of inspection being to the trains what a clean bill of health is to a vessel arriving from a foreign port. It permitted immediate entrance to what would otherwise have been quarantined. The railroad companies so appreciated the value of this system of inspection as subserving their interests while acting as a guard to the people of other States that the expenses incurred were voluntarily borne by them. Vessels leaving New Orleans for ports above were inspected on the request of the master or owner, and certificates furnished of freedom from disease. These were accepted by local boards, and commerce was uninterrupted. When a vessel sailed without a certificate she became subject to the quarantine laws of the place of her destination. At Vicksburg and Memphis, by request of the local authorities, inspection stations were established to intercept vessels without certificates and verify the condition of those which passed them. This system of guard and pass-port enabled the people of the great Valley to pass the summer with a feeling of security.

The Yellow Fever.—The epidemic in Pensacola appears to have reached its height, as there has been, during the week, no daily increase, as heretofore, in the number of cases. Up to and including September 25, there had been recorded 517 cases and 54 deaths. There were on

Dates.	Cases.	Deaths.
September 26th,	60	2
" 27th,	60	6
" 28th,	42	2
" 29th,	52	11
" 30th,	53	3
October 1st,	45	4
" 2d,	46	5
Total,	875	87

The ten-per-cent. death-rate is somewhat heavier than that recorded in Brownsville; but an elimination, if such were possible, of the simple malarial cases which undoubtedly swelled the yellow-fever lists in the latter city, would probably show that the disease has not been more fatal in one locality than in the other.

Vaccination of School Children.—Dr. John H. Rauch, Secretary of the Illinois State Board of Health, has just issued a circular to County Superintendents, School Boards and Teachers, in which he calls attention to the fact that communications received since the beginning of the present school year, indicate the necessity for renewed instructions concerning the School Vaccination Order of the State Board of Health, promulgated in December, 1881.

The order has been complied with to a very gratifying extent. Its wisdom and utility have been demonstrated by the facts—

First.—That among the thousands of cases of smallpox which have occurred in the State since the order was issued, not one is reported of a public scholar who had been properly or recently vaccinated. Several cases, however, with a large proportion of deaths,

have occurred among scholars who had either not been vaccinated at all or not since infancy.

Second.—That in no instance where the order was thoroughly enforced has it been necessary to close the public schools, even when smallpox existed in a community. On the other hand, schools have been broken up and studies interrupted in a number of instances where—as shown by the returns in this office—the order had been neglected.

In some of these latter cases the failure to enforce the order was due to causes which no longer exist. The present is a very favorable season of the year in which to vaccinate. Good vaccine matter can be readily procured, and the operation is not now liable to be complicated by the results which obtain in cold and changeable weather.

Concerning the statements sometimes met with—of serious results from vaccination, loss of arms, and even death—the Secretary takes occasion to say that he has made it his personal duty to investigate every report of the kind which has come to his knowledge. The net result of such investigations is that not one such report has been substantiated. He has been wholly unable to find any evidence of a death caused by vaccination, in this State, or even of permanent injury or serious illness, due to the operation alone. He does know, however, of hundreds of deaths—aside from the suffering, the loss of sight, and the disfigured faces among survivors—caused by the neglect of vaccination.

An examination of the reports thus far received shows that more than two-thirds of the total school population of Illinois, were unprotected against smallpox on the 1st of December, 1881.

Of the two million vaccinations within the past eighteen months, over thirteen hundred thousand have been performed since the 1st of January, 1882, as the result mainly of this vaccination order, and of similar measures instituted by the State and local Boards of Health. Until these measures were fairly under way there was a steady increase of the smallpox—but coincidently with their successful operation came the decline of the disease, until now it is practically at an end in Illinois.

It remains now to perfect and perpetuate the results thus far accomplished, and to this end—so far as the public schools are concerned—the following instructions are issued with reference to the School Vaccination Order:

At the beginning of the school year teachers must satisfy themselves of the vaccinal status of each of their scholars.

Proper vaccinal protection means a successful vaccination in a child not yet arrived at the age of puberty; or, if beyond that age, a successful vaccination or revaccination, as the case may be, performed within the past two years (approximately).

Vaccination returns, accounting for every child whose name appears on the school schedule, must be forwarded to the office of the Secretary of the State Board of Health at the end of the second month of the school year.

Semi-centennial Anniversary of McGill University.—The medical faculty of McGill University celebrated its fifteenth anniversary on October 5, 1882.

Trouble in the Medical College of Virginia, Richmond.—Governor Cameron, of Virginia, a few days ago appointed a new Board of Visitors for the Medical College of Virginia, in Richmond, thereby summarily displacing the old board, which action created considerable excitement in medical circles. The old board, however, upon legal advice determined to hold on, claiming that the Governor under the law had no right to remove them; that he could only fill vacancies, and that no vacancies existed. On Friday, September 29, we learn from an Associated Press dispatch, after being commissioned, the new board proceeded to the medical college for the purpose of meeting and organizing, but they were denied admittance to the building by Dr. J. B. McCaw, dean of the faculty, who refused to recognize their right or authority. They therefore held a meeting in the college yard and elected Lieutenant-Governor John F. Lewis president, and Dr. Lewis Wheat, secretary. The demand for admittance was renewed and insisted upon by President Lewis, when the policemen who were present, at the instance of the faculty, took him into custody and proceeded to the first police station, accompanied by the remaining members of the new board. When the parties were brought before the Chief of Police no one appeared against them and he promptly dismissed the matter, as there had been no violence or breach of the peace.

The board then went to Ford's Hotel, where, after a few minutes of informal conference, it adjourned until 4 P.M., at which hour it reassembled. After an interchange of opinions, the desire seemed general to temporize and overlook the indignity offered the board, in view of the public good resulting from the full operation of the college in all its departments. Expressions of opinion indicated also a desire to divest the matter of all political significance as far as possible. A committee was appointed to lay the matter before the Governor, and the board then went into secret session. Upon the return of the committee from the Governor it submitted a preamble setting forth the occurrences, together with a resolution notifying each member of the faculty of the Medical College of Virginia that the board would proceed to consider whether each of them—the faculty—shall not for his participation in the illegal proceedings above mentioned be removed from his position as professor in said college. The resolution was adopted and the board adjourned to meet the following day.

On September 30, the new Board transacted business as if it had full possession of the College. Committees were appointed to take a full inventory of the College property, and to report a plan for the reorganization of all its departments. A resolution was discussed looking to a suit against the city of Richmond for damages for the false imprisonment of the President of the Board, Lieutenant-Governor Lewis.

The Seney Methodist Episcopal Hospital in Brooklyn.—The corner-stone of this hospital, to which attention has already been called (see The Medical News for March 11, 1882, p. 280), was laid on Wednesday, September 20th, with appropriate ceremonies. Dr. L. S. Pilcher, of the Building Committe, delivered an address on the occasion, from which we make the following extract:

"The evils of hospitals have been traced to five sources, overcrowding, defective ventilation, defective sewerage, uncleanliness, and failure to destroy the special poisons produced in the bodies of the sick. The last two sources become subjects to be provided against in the administration of a hospital, but the first three are to be the controlling ideas to be considered in its construction.

"Whoever undertakes to build a hospital has, therefore, a responsibility, which he cannot decline, to secure in its construction every possible safeguard against these sources of evil. Every hospital committee should be summoned before the bar of public opinion, and their work tried by the tests of hospital hygiene that modern science has established. In the old republic of Rome, when the interests of the State were commit-

ted to the care of the consuls, the charge that was given them was, 'Let the Consuls look to it, that no harm befalls the State.' In our modern republic, when the interests of the sick are to be committed to the authorities of an hospital, a similar charge might well be incorporated into every hospital charter. The hospital professes to do good; let its managers look to it that no harm befall its inmates!

"This reponsibility has been deeply appreciated by the committee to whom the duty of elaborating the plans of this hospital has been assigned, and particularly by the medical members of the committee, whose judgment and wish, in every particular, have been regarded in the plans of the hospital. It give us pleasure to publicly testify to this fact, and especially to acknowledge the willingness and ability which the architect of the hospital has shown in carrying out our suggestions.

"The central thought which has run through all the plans has been that of *isolation*. Each building is isolated, each room in each building is isolated, and, to a very great extent, each bed in each room is isolated. No ward will contain more than twenty-four beds, and there will be no bed upon which the direct rays of the sun may not fall at some time during the day. Every bed will enjoy at least 1,800 cubic feet of air-space, and not less than 4,800 cubic feet of fresh air will be supplied each hour to every bed, while the temperature of the air-supply will be under the control of the occupants of a room or ward; the amount of air supplied will be constant and beyond the possibility of being interfered with. The systems of fresh-air supply and foul-air removal for each ward are entirely independent of any other ward, and no one will be able to pass from one ward to another, even when the wards are in the same building, without first going into the open air. Perfect isolation, and insulation and ventilation of the water-closets has been provided for. As the sick are isolated from each other, so the well are to be isolated from the sick. The apartments for the attendants, when not on duty, and for the resident physicians, are isolated and ventilated with equal care.

"This is neither the time nor the place to enter upon the details of the plans which have been elaborated. The hospital, when completed, will afford generous accommodations for over 200 beds.

"This building, the corner-stone of which we are assembled to lay, is the central building of the group of buildings which are to constitute the hospital. In addition to the usual administrative offices and quarters for the officers of the hospital, it will contain a special ward of ten beds, and eleven private rooms, with accommodations for twenty-five beds. On its upper floor will be dormitories for the corps of nurses, and in the wing upon its eastern side are the chapel, museum, and library-rooms. In a separate building in the rear will be placed the steam-boilers, the laundry, the bakery, the kitchen, the apothecaries' department, and the servants' dormitories. On either side of the central buildings will be aligned the pavilions in which the common wards will be placed, four in all, the two nearest the central building containing two stories of wards; the one to the extreme west one story; that to the extreme east two stories, and to be especially modified to adapt it for a children's hospital. The nearest proximity of any of these pavilions of wards to one another will exceed 120 feet. Separate buildings will be provided for the surgical operating theatre, and for the mortuary.

"The institution, the character of whose buildings I have now outlined, will lack nothing in the scope of its design, the comprehensiveness of its details, and the perfection of its finish, to make it the complete embodiment of the Christ-given idea of relief to the suffering. It will be unexcelled in point of architectural beauty by any similar institution in this or any country. It will be free from the reproach of hospitalism, and will afford every facility for the cure of disease and the advancement of scientific medical knowledge. To all men alike who are sick and in need will its privileges be extended. Its crowning glory will be that, in all its ministrations and offices, it will name the name of Christ. In the laying of this corner-stone those who have for many months been carefully considering and maturing the plans for this great institution may well feel a special exultation, and be pardoned for expressing it. This act marks the beginning of the end, when of all these stones each shall have found its place, and when the completed structure, a perfect hospital, a true Hotel Dieu, shall stand forth, a magnificent example of Christian benevolence, a monument which shall render imperishable the name of the man whose munificence has built it, and which shall likewise forever testify to the world the charity of the Church which gave him birth, and to whose care he has committed the management of such a trust."

PERSONAL.—Prof. Wm. B. Carpenter, the well-known physiologist, and Dr. Morell Mackenzie, were present at the opening of the medical courses at the University of Pennsylvania and Jefferson Medical College, in this city.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending September 23, 1882, indicate that influenza has increased, that cholera morbus has considerably decreased, and that neuralgia, dysentery, cholera infantum, diarrhœa, diphtheria, whooping-cough, and intermittent fever have decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending September 23, and since, at 21 places, scarlet fever at 8 places, measles at 1 place. Smallpox was not reported from any locality in Michigan.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 25 TO OCTOBER 2, 1882.

MIDDLETON, P., *Assistant Surgeon.*—Granted leave of absence for one month, on surgeon's certificate of disability, with permission to go beyond limits of the department.—*S. O. 103, Department of Texas, September 20, 1882.*

CARTER, W. F., *Assistant Surgeon.*—Relieved from duty at Fort Concho, Texas, to report to Commanding Officer at Fort Stockton, Texas, for temporary duty as Post Surgeon.—*S. O. 103, Department of Texas, September 20, 1882.*

POWELL, J. L., *Assistant Surgeon.*—To report to headquarters Department of Texas, to temporarily relieve Assistant Surgeon P. Middleton as Post Surgeon and Attending Surgeon at Department Headquarters.—*S. O. 103, Department of Texas, September 20, 1882.*

SHUFELDT, R. W., *Captain and Assistant Surgeon.*—To proceed to Jackson Barracks, New Orleans, La., and report to the Commanding Officer thereat for duty.—*S. O. 93, Department of the South, September 26, 1882.*

POWELL, J. L., *Assistant Surgeon.*—Relieved from duty at Fort Stockton, Texas, and to report at headquarters Department of Texas, for temporary duty as Post Surgeon, San Antonio, Texas, and Attending Surgeon at Department Headquarters.—*S. O. 103, Department of Texas, September 29, 1882.*

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

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ORIGINAL LECTURES.

CELL LIFE AND ANIMAL LIFE.

An Address delivered at the Opening of the Seventy-sixth Session of the College of Physicians and Surgeons, New York, October 2, 1882.

BY T. MITCHELL PRUDDEN, M.D.

GENTLEMEN: We are met to-night upon the threshold of the opening college year, as devotees to the science of medicine, and it is the cherished purpose of this college, with all the facilities which its position and scope, and five and seventy years of experience afford, to teach this science in an unostentatious, but liberal and comprehensive way, to earnest and faithful men.

It is a fact which is daily thrusting itself into greater and greater prominence, that the science of medicine is only a single department of the more far-reaching science of biology—a science which treats of *all* living things from the tiniest microscopic fungus up to man.

In the earlier days of medicine, the close relationship between man and other living things was not recognized. Man stood apart in nature, upon a pedestal of his own creating, related to other living things only as their master, and the explanation of the mysteries and wonders of his existence were sought exclusively above or within, and not beneath him. To-day we know, however much remains yet untraced, that his relations to lower beings are most intimate, and that if we would understand his most complex organization, we must approach him through the more simple forms of life.

Moreover, however we may stand related in opinion to the great question, whether there is not some inscrutable factor in man, by which after all he does differ in a most essential manner from all else in nature, we are perfectly agreed that, as far as they go, the physical and chemical, and other natural laws, reign with a dominance as supreme, and as inexorable in the human body as in the tree, the reptile, or the distant star, and in precisely the same way. The ray of light is refracted with no less precision in the human eye than in the water of the lake; the restless vibrations of the molecules are as true to their orbits in the human brain as in the block of granite, or the tongue of fire.

As a result of this conception, it is evident that the devotee to medical science must be very hospitable to the sister sciences, even on the ground of simple policy, for they are indispensable to the welfare of his chosen goddess, and it is only through their aid that he can worship acceptably at her shrine. This is a source of much embarrassment to medical educators, and it is getting to be very hard to know how to embrace in a curriculum devised for three short years all that is necessary for the successful prosecution of a course of medical study. Physics justly claims a hearing; chemistry stands at the very core and centre of all the vital processes; zoölogy shows us in her lower ranks the analogues and prototypes of man in structure and function, or even claims a proprietorship in us more intimate than this; and to-day botany, from that part of her domain which lies beyond the reach of the unaided vision, points out to us I know not what myriads of tiny monsters, which in varied guise of bacteria, micrococcus, bacillus, and all the rest are stretching out their poisoned fingers, demanding recognition with a persistency which *will* not be ignored, and which threatens to carry the whole world by storm.

Now what are we to do? To-day the question is not urgent, but to-morrow the machinery of college routine and duties will begin to move, and those of you who have been here before already know, and those whom we greet for the first time to-night will appreciate very soon, that the amount of material at your hands, the facts and thoughts presented to you day by day, which must be worked over and become a part of yourselves, will seem absolutely overwhelming.

The first thing is to understand precisely our position; we do not want or need to become zoölogists, or botanists, or chemists, or accomplished biologists, in order to be good physicians. It has indeed, I think, been abundantly demonstrated that special workers in these fields become far too much engrossed in the minutiæ of the themes which engage them, and perhaps too deeply penetrated with the precision and exactness of the methods which they employ, to permit of a devotion to that class of works and studies which the practical exercise of our profession demands. But it is also unquestionably true that an elementary training in general biology and its methods of research greatly facilitates a thorough comprehension of the principles upon which much that is taught in medical schools directly depends. And, practically, you will find that everywhere in those departments which are preparatory to the real business of your lives—the prosecution of the art of healing—in your anatomy and physiology, the facts elicited from researches on the lower forms of life make up a very considerable and important factor.

But it is chiefly to the elementary school and to the university that after all we do and must look for a systematic training in the elements of biology. The fact is that medical schools are simply technical schools, and it should be clearly understood that their first duty is to train physicians in the science and art of medicine as it exists to-day—to fit men to avert disease if possible, or to direct it to a favorable termination if they can, or, when the need comes, to lead the hopeless patient as painlessly and gently as may be to his rest. The point which I wish to urge here is that we ought to fully appreciate the importance to us, as medical men, of the researches and advances in these collateral and closely allied sciences, so that even though we may ourselves fail of a thorough elementary training in them, we may yet fully recognize their value for those who have still the opportunity, and whom we may perchance advise; and yet more, that we may ourselves be in a state receptive to facts which now and again will come to us from without, and which may throw wonderfully illuminating beams along our path if only we know their value.

You will find that at this college, those subjects which experience has shown to be most essential to the successful practice of medicine are arranged in a progressive series, so that each year finds its appropriate studies. And you will doubtless discover that with all due care in the systematic disposition of your time, and with all the energy and enthusiasm which the nature of our themes is so well fitted to inspire, three years are all too short for the acquirement of that knowledge which it behooves us to possess. And you

will doubtless acquiesce in the conviction which is becoming almost universal among medical educators, that a fourth year must soon be added to the systematic course of study, if we would keep pace with the rapid progress displayed in many departments of medical science.

It is my special purpose in this address, to show you by a few simple illustrations of a theme, which is very familiar to many of you, how potent is the aid which comes to us in the study of man, from the contemplation of lower forms of life, and with what readiness long series of apparently isolated facts crystallize around some guiding principle, which may be seen cropping out here and there all along the whole scale of living things, when once we bid our eyes to look so far.

In general anatomy we learn that the body consists of a bony framework, around which various tissues and organs are securely, and compactly grouped. When we have learned the size, shape, number, relations, and names of all these parts, our study of macroscopic or general anatomy is done. If, however, entering that department of anatomy known as histology, we trace the manner in which these parts are made beyond the point where the naked eye can avail us, we find that they are all composed of certain tiny organisms called cells, and that these cells are held together and associated by certain materials which lie between them, and which are the products of their transformations.

Just as the chemist has his atoms and molecules, to which in the last analysis he refers the properties which all known substances possess, and explains by differences in their nature and movements, the various chemical phenomena which matter exhibits, so we may refer both the structural features, and all the activities of the animal body back to the structure and activities of our elements—the cells. While the chemist, however, must infer the existence of his atoms from their deeds, armed with the microscope we can see our cells, observe the things they do, and definitely trace out their life history.

Cells are little masses of matter of peculiar chemical constitution and of varied shapes and consistence which at some time exhibit that complex of phenomena which we call life; and the life of one of the higher animals is simply the sum of the more or less independent but coördinated lives of the cells which compose it, all acting in harmony. Living things differ from the non-living in that they have certain activities through which their life is expressed. In the first place, they are capable, in spite of various opposing forces, of maintaining their individuality, and by holding a balance between waste on the one hand and assimilation on the other, a series of capacities arise, which we call nutrition, growth, and development.

Living things, in the second place, possess certain activities by means of which they are capable of producing new individuals like themselves; in other words, they are endowed with the power of reproduction.

Lastly, living bodies, in response to varied influences, are capable of *doing* certain things in the way of movements or of elaboration of peculiar chemical products, etc., and these are called their functions.

You will observe, Gentlemen, that in enumerating these activities, I have spoken of them not as characteristic of man or of any special animal or plant, but of living things in general.

All life finds expression in these ways. The means by which the living being does these things may be in one case exceedingly primitive, and in another very complicated, but this does not alter the essential character of the ends which it achieves.

If you tie a bit of muslin over a water faucet and allow the Croton water to trickle slowly through it for a few hours, you will find on removing it that a more or less abundant greenish scum has collected on the cloth. Wash this carefully into an open dish, and let it remain for a few days in a light warm place, and then examine the sediment under a microscope, and you will find a very celebrated creature. It is called an amœba. It looks like a little lump of transparent or slightly granular jelly. You will see it thrusting out portions of itself in the form of longer or shorter arms, and then withdrawing them and sending out others in another place, apparently in the most aimless way; or you may see it rolling itself over and over, or, if I may so say, flowing along, so that it travels with considerable speed. Perhaps some microscopic vegetable will lie in its way, and it will flow over and enclose this, and, after digesting portions of it, expel the residue from whichever side or surface of its body may be most convenient. If, in a quiescent condition, it be touched by an external object, you may see it move in direct response to the irritation. If you are fortunate in your observation, you may see a constriction appear around some part of the lump, which grows gradually deeper until a portion of the mass separates from the rest and crawls off on its own hook as a new and independent amœba. It has no lungs, and yet it breathes; no mouth, still eats; no definite shape, yet grows; no nerves, yet is sensitive; no sex, yet may give birth to endless progeny.

Now this amœba is one of the lowest and simplest of creatures, and is the type of a cell—a creature which is composed of a single cell, and all the activities which I have mentioned as characteristic of living things are exhibited in it. It is a perfectly independent being, doing everything for itself, and doing nothing particularly well, except, perhaps, performing the function of reproduction, which it does with such ease and nonchalance as leaves little to be desired. The young which it produces are just like the parent, single cells, and their very first post-natal act may be to give birth to other amœbas.

Now let us advance a step in the scale of being, to an animal composed of several cells. There is a little creature, one of the group of sponges, called Olynthus. Let us start with the ovum of the animal, which is a single cell, not very unlike the amœba in appearance. Under suitable conditions this cell divides as the amœba does, and two cells are produced, just exactly alike. They do not separate, however, as do the amœba's to become independent individuals, but remain fastened together; then each cell divides again, and these still further until we have a little mass of cells all looking alike, and the whole somewhat resembling a mulberry in shape. But now a change comes, the cells on the outside become longer than the rest, and little hair-like processes, called cilia, grow out from them and begin to vibrate to and fro, and acting like tiny oars propel the little creature through the sea. Presently the rest of the cells arrange themselves so as to form a central cavity, with an opening at one side, the whole looking something like a tiny cup. The animal now attaches itself to a sea-weed, or a rock, and no longer needing the locomotive cilia, they disappear; but as it can no longer travel, it can no longer seek its food, which must be brought to it. Accordingly, we presently find that through the sides of its body little holes appear, and the cells lining the central cavity lengthen and develop cilia, whose vibrations maintain a current of water through the body which brings with it oxygen and food. This is the adult Olynthus.

Now observe, if you please, what has happened in the development of this little creature. A single cell divided into several cells, at first all just alike, and all

doing the same thing, but soon, as if in response to the growing needs of the animal, certain of the cells developed a special apparatus, and special capacity for performing rapid movements, and this capacity was associated with changes in the form of the cells; a specialization which signalized its advance to a higher type of existence.

Just here we come upon the great principle, in a very simple form, upon which the enormous differences between higher and lower animals rest; the principle of the physiological division of labor in cells. The more perfect the individual is, the more elaborate do we find the expression of this principle.

The difference between the amœba and the Olynthus from our present point of view—that which makes of the latter a higher animal than the former—is that it has a certain group of cells set apart to do a special thing, to move rapidly; amœba moves, but not so rapidly nor with such directness. If another group of cells were set apart in Olynthus to do the digesting, no new cell powers would be developed which the amœba does not posess, the primitive assimilating power would simply be specialized and intensified, and the animal would have risen to a higher grade of being

It would not be difficult, did time permit, to trace the manner in which, as we pass upward in the animal series, certain groups of cells become more and more elaborate in structure as they assume higher and more specialized capacities. We cannot tarry for this, but will glance for a moment at the exhibition of this principle in the development of man. In man, too, life commences in a single cell called the ovum: a cell which, though harboring potentialities of the highest order, in many respects greatly resembles our little denizens of the Croton water. This cell, under suitable conditions, divides and sub-divides, forming a little cluster of cells all looking alike. Then these cells arrange themselves in layers, some of them assume special forms as they increase in number, and develop special capacities and group themselves to form the various tissues and organs of the mature body, which finally is formed of a grand community of coördinated groups of cells, some of which have acquired the power to do special things in the most perfect way, while others have remained in a condition of comparatively low organization. Let us look at two examples of these two types of cells from the adult body—first at certain muscle cells. These in the very young animal look just like many other cells; they are individuals, they are alive and their life finds expression, just as the amœba does, in certain activities, nutrition, growth, function, and reproduction. Presently they become longer than their neighbors, little striations appear along their sides, they grow long and narrow until at last they are little thread-like bodies with a very complicated internal structure, and are grouped in bundles to form the muscles as we see them with the naked eye. You already know or will soon learn the peculiarities of structure of these muscle fibres and how such elaborateness of structure is necessary for the performance of the work which they have specially to do; namely, the accomplishment of rapid and powerful movements. Now the capacity of the muscle cells for doing this work has been acquired, if I may so say, at the expense of some of the other capacities which they originally possessed in common with other cells. Thus the power of reproduction is in them almost if not quite completely absent. They can also no longer seek out and take up crude food but it has to be prepared for and brought to them and in order that this may be done, certain other cells in the body develop the power of elaborating a peculiar fluid—gastric juice, which helps to change the crude food so that it finally becomes fitted for the nourishment, among others, of the special workers, the muscle cells; other cells—the red blood cells—develop the capacity of bringing them oxygen and in doing so have lost many capacities which are possessed by lower forms. Other cells develop in a peculiar way to form the nerves by which all the various parts of the body are brought into harmonious action, and so on. Thus we see in the higher animals each highly developed cell working for the others as well as for itself and for the organism as a whole, only its chief endeavor is concentrated in some one special thing, and as a result of this concentration some of the more general cell powers are lost or diminished.

Now look for a moment, on the other hand, at a type of cells which have not undergone this marvellous change. Take the white-blood cells, or the connective-tissue cells, for example. These simply remain in a condition of low organization. They are nourished; they grow; they can reproduce their kind; and can slowly move, all apparently in much the same way that the amœba does, their reproductive power, if any, being their most marked capacity. That they have great potential capacities, and are of incalculable service in the economy we may assume, but have not now time to show.

These examples must suffice for illustration of the great principle of the physiological division of labor in cells.

We find a close analogy to this, although it seems almost too trite to mention, in the division of labor in society. In primitive conditions of society, each man gets his own food as best he can, builds his own house, makes his own furniture, if he has any; in a word, manages his own existence on a quite independent basis. As society advances the tendency always develops for different men to do special things, and one man hunts, another tills the soil, another cooks; one becomes a carpenter, another a cabinet-maker, a great many become doctors, and so on; each getting the benefit of the other's special skill, and in turn contributing his own. In this way the same end—the maintenance of the individual—is not only more easily but better accomplished. But this arrangement, although on the whole advantageous, involves the unsymmetrical development of the individual. The hunter will find it hard to make a bureau, and the cabinet-maker looses much of that acuteness of vision and steadiness of nerve, which the man who shoots his game retains. The cook would scarcely succeed in composing an essay on molecular vibrations, and the physicist would doubtless prepare a chop most vilely.

But this is by no means the only expression of this principle in nature. Back of the division of labor in society, lies the division of labor which is expressed by sex. In many of the lower animals, as you well know, both sexes are found in one creature, these are hemaphrodites; but division of labor supervenes, and in the higher animals the larger part of the burden of reproduction is thrown upon a class of individuals which become the females.

In some parts of the Atlantic, and in the Mediterranean, there is found a lowly organized animal, allied to the jelly-fishes, which furnishes one of the most exquisite examples of the division of labor.

In this creature, which is composed of many individuals, we have first a central hollow stem, at the upper end of this is a little bladder filled with air, which floats the community just at the surface of the sea. Arranged around the upper portion of the stem are rows of little bell-shaped structures, which have the power of drawing in and vigorously blowing out the water, thus moving the community; these are the locomotive individuals, they do nothing else. Further down the stem are various kinds of individuals crowded together: first those which have become spread out into broad

hard plates, beneath which the others can hide in danger; then come the eaters, which are furnished with a complicated stinging apparatus, by means of which they catch their prey, a mouth into which it is thrust, and a stomach and liver for digesting it. Again there are separate individuals having long tactile feelers, these are the more acutely sensitive members of the community. There are, further, those whose sole duty is to perpetuate the species, and of these there are males and females. The food which is caught and digested by the eaters, does not nourish them alone, but passing into the central hollow stem goes to all the rest.

The character and actions of these workers show that they have a certain individuality of existence, but that they are closely dependent upon one another, and the whole constitutes a single animal. The creature commences life like a common polyp with a long stem; simple buds are at first formed all looking alike, but gradually these become changed into the various forms which I have so hurriedly described. These creatures are called Siphonophores, and as they swim about form one of the most beautiful of natural objects.

But we need not look so far away from home among the lower animals for illustration of this principle. Among the bees and ants it is displayed in such varied and striking ways that the accounts given us of the habits of these creatures read like romances or like travesties of human society. In fact, turn where you will you find the same thing, not in animals alone, but in plants as well. The various parts of the flower—corolla, stamens, pistils—are all only modified leaves, modified in the first place in form to serve the cruder purposes of generation, and then in color and fragrance in answer to the more refined and varied needs of their existence. And it is essentially the same principle extended to the grouping of living beings on the globe and to those which have left their traces in the rocks, which is involved in the grand generalizations of the celebrated English naturalist and philosopher, whose death we have so recently been called upon to mourn.

It is not a little inspiring, Gentlemen, to find, as we slowly and painfully trace out the structure and functions of the various parts of the human body at the dissecting table, in the physiological arena, and under the microscope, that we need not to hold all the minute and multifarious details which we discover as so many isolated unresponsive facts, but that they are all expressions of great underlying principles, boundless as nature itself and instinct with the pulse-throb of the universe.

Did time permit, I should like to picture for you the character and destiny of some of the lower forms of cells, which we find in the human body; those which have not undergone that differentiation in structure and function which belongs to higher types; to speak of the marvellous potentialities which are dormant in them; to show you how their very simplicity of existence, the absence of special powers, and their boundless capacity for reproduction particularly fit them to become the conservators of the individual; to indicate what an important *rôle* some of them play in the healing of wounds and in the formation of new tissues; or rather, let me be more specific, and say that I should like to lay before you the reasons which we have for thinking that in the healing of wounds involving the more highly organized tissues, such as muscles, nerves, etc., it is not chiefly the cells of these tissues themselves which initiate and carry on the healing process, and form the new tissues which are to replace the old, but it is the lower forms which apparently play the leading *rôles*. And it is a curious fact that when the new tissues are formed in the adult body they do not spring at once in mature form into being, but pass always through developmental stages similar to those which are observed in the early formation of the embryo. So that we are not to think of the lower forms of cells in the body as insignificant, because under ordinary circumstances their being and performances are humble, and inconspicuous, for they seem to be ever ready, either resting quietly in their tiny nooks within the solid tissues, or driven restlessly in the rushing torrent of the blood, to assume again the lowly but active powers of embryonic cells, and begin the work of reproduction and repair. Then if we had time to scan the reverse of this picture, we might see in these lowly organized cells how, when the conditions of their existence are at fault, they may, loosing their benign and conservative character, become freighted with most malignant potency, and subtlety, or with overwhelming suddenness, lead the body on to disease or death. It might be interesting to see how in the domain of pathology, which is the department dealing with abnormal perturbations, and changes of these various cell communities, some of the gravest questions have ever been, and still are, in reality only due to the uncertainty which yet exists as to which cells have undergone the changes involved in the physiological division of labor, and which still retain the power of adapting themselves in structure and function to the changed conditions of disease. But for the elaboration of all these suggestions, there is no time to-night.

I cannot refrain, however, from reminding you that since the day when the importance of the cell as a morphological and physiological factor in the animal economy became an established acquisition of our science, its dignity has never ceased to grow. And that as under the illuminating genius of Rudolph Virchow, of which you have heard so recently in this room, the principles of a cellular pathology were formulated, so one day we may hope to hear the enunciation of the no less profound, and perhaps more strictly practical, doctrines of a cellular therapeutics.

If I have accomplished the simple purpose of this address, I have shown you that all the varied structures and functions of the body are but the combined expression of the structure and lives of the cells which compose it; all coördinated and working in harmony by means of a self-built cellular mechanism. That, starting with the type of the most simple of living things, a single cell, the finished organism is an aggregate of the progeny of the original cell, some groups of which have developed special forms and powers, in accordance with a universal principle in nature. That the doctrine of evolution, even should the record of the rocks be incomplete and perfect continuity in the grouping of living species fail, still finds epitomized in every animal and plant which has escaped from the primitive simplicity of the lowest forms, a most pertinent illustration and convincing proof.

These thoughts, which may to many of you be simply reminders of facts and principles long since your own, I leave with you in the hope that at least in a subsidiary way they may be of value to you as you labor in the acquirement of that wealth of practical knowledge and fund of power which it is the primary duty of this college to impart.

If you still should ask me of the practical bearing of all these and kindred thoughts and studies, a question which medical men are, I think, too prone to utter, I answer simply that it is truth, truth concerning themes around which our best life endeavors will circle; and though from the contemplation of such truths we may not return laden with facts or thoughts which find immediate application, we cannot fail to bring a breadth of view and wider sympathy which will make us more powerful in any work which lies at hand.

ORIGINAL ARTICLES.

ELASTIC TENSION AND ARTICULAR MOTION IN POTT'S DISEASE.

By M. JOSIAH ROBERTS, M.D.,
INSTRUCTOR IN ORTHOPÆDIC SURGERY AND MECHANICAL THERAPEUTICS IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

(*Read by invitation before the Tompkins County Medical Society, at Ithaca, N. Y., September 20, 1882.*)

Probably no plan of treatment in the whole range of mechanical therapeutics has ever attracted so conspicuous and wide-spread attention, or has ever advanced the interests of American surgery abroad, more than that known as Sayre's method of treating spinal disease. The rapid recognition by the medical profession throughout the civilized world of the practical advance thus made in the treatment of vertebral caries, should be looked upon with honest pride by every American physician and surgeon. Though fully appreciating the great value of this plan of treatment, and having obtained gratifying results from its use in a considerable number of cases, much clinical observation and careful thought convinced me some time since, that further improvements in the mechanical treatment of spinal caries were not only possible and desirable, but probably obtainable in the near future.

Without wishing in the least to detract from the credit justly due Prof. Sayre for the introduction of this simple method of treatment, but only with the idea of arriving at correct notions regarding its intrinsic scientific and practical value have I ventured to criticise it.

In an article published in the current October number of the *New York Medical Journal and Obstetric Review*, entitled "Non-uniformity of the Principles of Treating Pott's Disease as Taught by Prof. Sayre," I have called attention to the fact that the *aim* of treatment, irrespective of the extent of the degenerative processes, was to secure anchylosis of the involved vertebræ; that although "absolute rest," and the restriction of "motion of the parts diseased," are put forward as fundamental ideas in the treatment of this malady, not even an attempt was made to enforce them in caries of the spine in the upper dorsal or cervical regions; that while, in the treatment of the middle and lower dorsal spine, articular motion was abridged to a certain extent, it was practically unrestricted at the seat of disease by the jacket and jury-mast, when used in treating upper dorsal and cervical caries;[1] finally, that while voluntary articular motion was vouchsafed to diseased cervical vertebræ, all the healthy segments of the spine below the axillæ were doomed to months, perhaps years, of immobilization in so far as that is possible by the encasement of the body in a closely fitting plaster dressing from the crests of the ilii to the armpits. In a single sentence, that the same mechanical principles are not advocated for the treatment of spinal caries occurring above the axillæ that are so emphatically declared to be of prime importance when considering the treatment of this disease below that level.

The conclusions reached in that paper were, that there existed no valid reasons for a change in principles when treating different parts of the spine; that better results were obtained in the cervical region by elastic extension and voluntary articular motion, than by rigid extension and fixation, such, for instance, as is afforded by the plaster jacket in the middle and lower dorsal regions of the spine when applied during the suspension of the patient.

The explanation which I gave of the beneficial results obtained in the treatment of cervical caries by elastic tension and articular motion was that, owing to the elasticity of the traction force, the jar incident to locomotion was abolished, reflex muscular spasm was overcome, and the close approximation of the normal movements of the spine was rendered possible without the slightest irritation, notwithstanding the existence of the carious inflammation. The flow of the blood through the vessels is thus facilitated, especially through the capillaries, in which the effect of the diastole and systole is not felt. The efficiency of the respiratory function is also augmented. More blood and better blood, consequently more nutritive material, and that of a better quality, is furnished to the parts for the purpose of carrying on the repair of the diseased tissues.

A number of patients coming under my observation having spinal caries and treated by elastic extension and voluntary articular motion, have recovered in a comparatively short space of time, without anchylosis or deformity, and with as free and extensive movements as before the occurrence of the disease.

These brilliant practical results have led me to the conclusion that the aim of treatment in caries of the spine should no longer be the securing of anchylosis, but that here, as in the treatment of chronic inflammations of the ankle, knee, and hip, we should aspire to the restoration of the functions of the diseased joints.

Further stimulus to therapeutic experimentation in this direction is to be derived from certain comparative anatomical and physiological considerations, which I can not here detail. In order to furnish a clue to these however, I may state a well-known fact, namely, that the normal condition of the vertebral articulations like those of the extremities is such as to permit of more or less freedom of motion. The mobility of the various joints of the body, especially those of the lower limbs and of the spinal column is of great importance in the avoidance of concussion or jarring of delicate nervous structures, which would otherwise result from riding, walking, running, jumping, falling, etc.

Again, articular motion, both in the lower animals

[1] Another fact which I have observed in studying the mechanism of the jacket support is that, however carefully the dressing may be applied, considerable freedom of motion of the segments of the lumbar spine is always possible. Hence, by its use in the treatment of lumbar caries, "absolute rest" could not be afforded to the diseased vertebræ. This fact, however, does not preclude the possibility of obtaining good results from its use in these cases. On the contrary, in conjunction with the efficient sustentation afforded by the jacket in lumbar caries, articular motion becomes an important factor in bringing about a speedy cure, for reasons already given in the article above referred to.

and in man, like the analogous movements in plants, is of much greater importance than is generally supposed in the maintenance of a normal circulation, and hence, in supplying the requisite nutrition for the growth and development of the individual, and the carrying on of reparative processes in cases of disease.

It is, therefore, evident that Prof. Sayre in recommending the application of "the usual treatment of a broken leg" . . . . "to a carious spine,"[1] has not borne in mind the physiological condition of the parts involved in the two instances. By applying "a fixed dressing securing absolute immobility" to a broken leg, we promote as best we can the early re-establishment of the function of that member by bringing about anchylosis, or bony union of the fragments, thus restoring the fractured bony shaft to its original state of rigidity. But bony union of the vertebral articulations is not a normal condition, and, hence, to aim at such a result by treatment before anchylosis has begun, would be as unphilosophical and as unscientific as to aim at securing anchylosis in cases of chronic inflammation of the hip, knee, or ankle.

There still remains much evidence in favor of my position, which the limits of this paper will not permit me to adduce. Pathological observations, though they have not been as numerous as could be desired, furnish us with significant facts bearing upon this important subject. It is now pretty generally admitted that, at least in the great majority of instances, the carious process commences in the cancellous structure of the bodies of the vertebræ. So long, then, as the articular surfaces are not involved, surely there can be no reason for immobilizing the vertebral joints, if the pernicious influence of inter-articular pressure, due to reflex muscular spasm and superimposed weight, is overcome.

I wish now to briefly direct your attention to some apparatus which I have devised for the purpose of securing, at the seat of disease, continuous elastic vertebral extension and voluntary articular motion, together with the avoidance of inter-articular pressure and friction.

Without detailing the various clinical observations and experimental mechanical steps which have led to the adoption of a new apparatus for the treatment of cervical Pott's disease, I will at once submit to your notice the final result attained.

Fig. 1, from a photograph by Mr. James U. Stead, affords a good general idea of the appearance of the instrument when applied. As will be seen, it consists essentially of two encasements, an upper or cervico-cephalic, and a lower or cervico-trunkal segment. The superior one has a clasp under the chin, which can be opened or closed by means of a key, thus permitting of easy removal or reapplication. The inferior one is provided with a hinge posteriorly, and a clasp anteriorly. The surfaces pressed upon by these two enveloping segments serve as points for counter-pressure. Elastic linear extension of the cervical spine is effected by means of two strong spiral springs playing upon upright steel rods, which are placed on either side of the neck. The degree of elastic traction force which is exerted can be regulated at pleasure by the thumb-screws, which support the spiral springs on

FIG. 1.

the steel rods. The upright rods are provided with a ball-and-socket joint at their lower end, thus permitting of all the normal movements of the head to be made, while at the same time elastic extension is enforced. Rubber bands extending from a hook screwed to the upper end of the steel rod on either side, to the cervico-trunkal segment of the instrument serve as elastic stays. These bands are of varying strength, and by their use the head can be sustained in any desired position, or its movements directed and controlled.

By doing away with the spiral spring and substituting non-elastic stays for the rubber ones, rigid extension and fixation of the cervical spine could be more nearly realized than by means of most apparatuses designed for the treatment of these cases. Fig. 2, from a photograph, illustrates the inconspicuousness of the apparatus when the patient is dressed.

[1] Sayre on Spinal Disease and Spinal Curvature, London, 1877, p. 13.

This appliance leaves all the healthy vertebræ, as well as the muscles of the trunk, unrestricted. Muscular debility and retardation of growth of healthy vertebræ are thus avoided.

Fig. 2.

In the treatment of regions of the spine below the cervical, we have to descend at once to the crista ilii for a point against which to make counter-pressure. If the disease be not located inferiorly to the middle dorsal region, it is always advisable

Fig. 3.

to still make upward pressure against the inferior occipito-mental surface, as in the treatment of cervical caries. Hence the cervico-cephalic encasement is retained.

Take, for example, a patient having spondylitis of the middle dorsal vertebræ, resulting in a marked kyphosis, which is well illustrated in a case sent to me by Dr. F. Heuel, Jr. (*vide* Fig. 3, from a photograph by Mr. O. G. Mason). To carry out the idea of making elastic extension and affording lim-

Fig. 4.

ited voluntary motion to this region of the spine, I made use of the following method:

Being kindly assisted by Dr. George W. King, I carefully suspended the patient in the usual manner with a skin-fitting knit-shirt and "dinner-pad" applied, until the patient was made comfortable. While thus suspended it was incidentally determined that, having overcome the reflex muscular spasm, a very considerable amount of articular motion could be effected without causing the least pain or discomfort.

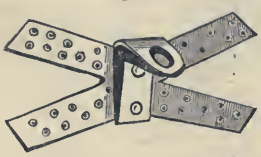
Having applied the first layers of plaster dressing, a head-rest of the form shown in Fig. 5 was placed in position and secured by an additional layer of plaster bandage. The action of this head-rest is the same as that previously figured and used in the treatment of cervical caries, the only difference being that the cervico-trunkal segment is replaced by metallic arms extending over the shoulders and connected with two shafts which pass down and forward under the arms, and are incorporated within the layers of plaster bandages. Four pairs of light steel perforated steps, made for me by Messrs. J. Reynders & Co. (*vide* Fig. 6), with thin sheet-copper arms attached, were next placed in position, one above the other, on the surface of the plaster dressing (*vide* dotted lines, Fig. 4), and secured in place

by a layer of bandage. These steps are for the purpose of retaining the elastic extension bars, presently to be described, in position.

FIG. 5.

Incidentally I wish to state that the relief afforded by suspension was so great in this instance, that within two or three minutes after being placed in the swing our little patient, who had for many nights previous been unable to sleep with any degree of comfort, fell into a sound slumber, from which he did not awake until he was removed from the apparatus to be laid on the air-bed.

FIG. 6.



After time had been allowed for the "setting" of the plaster, the "dinner-pad" was removed and a transverse circumferential division of the jacket

FIG. 7.

made at its smallest part (*vide* Fig. 4). The knit-shirt underneath was not divided.

Four light steel rods, turned up at one end as shown in Fig. 7 and provided with a nut and strong spiral spring, for making *elastic extension*, were placed and secured at their upper and lower ends by passing through the perforations in the projecting portion of the steps that are firmly embeded in the layers of plaster (*vide* Fig. 4).

FIG. 8.

With a wrench, Fig. 8, the nut may be moved up or down, and any desired amount of elastic extending force exerted. The improved position gained by suspension was thus maintained by continuous elastic tension. By moving up the nuts from time to time the kyphotic curve may be still further reduced, without producing the slightest irritation, while the jacket is *in situ*.

The amount of separation of the upper and lower segments of the jacket which it was sometimes found desirable to make exceeds the limits of elasticity on the part of the knit-shirt under the jacket. To obviate this, Mrs. Dawson, of the Brickford Knitting Co., made for me at my suggestion a shirt with an elastic zone, knit with covered rubber thread, opposite the point of division of the plaster encasement.

Should there be any spinal rotation the further advance of which it is desirable to prevent, or even overcome, this may be readily accomplished by means of one or more rubber guys passing from the summit of one steel rod to the base of another.

The testimony of several patients who have previously worn the rigid jacket, as recommended by Prof. Sayre, has thus far been to the effect that the divided one, with elastic extension bars inserted, affords more efficient support and is less irksome. That it is so is evident, for the same reason that a spring carriage is a more comfortable vehicle to ride in than a lumber wagon.

FIG. 9.

We have then for the treatment of the middle and upper dorsal regions, as in the cervical, an apparatus which exerts continuous elastic extension, overcomes reflex muscular spasm, and admits of limited articular motion at the seat of disease.

When the carious inflammation attacks segments of the lower dorsal or lumbar spine, the head-rest can usually be dispensed with and the bulge of the thorax be alone depended upon as the surface against which to make upward pressure.

To make the upper and lower segments of the jacket removable, Messrs. G. Tiemann & Co. have at my suggestion attached metallic clasps to them (*vide* Fig. 9).

The clasps of the upper segment are secured in position by strong bands of elastic webbing. This arrangement permits of the necessary expansion of the thorax with each inspiration, and at the same time does not invalidate the efficiency of the support. The clasp of the lower segment is secured by two nuts.

No. 4 West Twenty-eighth St.

AN INTERESTING CASE OF HERPES IRIS.

By H. W. STELWAGON, M.D.,
physician to the philadelphia dispensary for skin diseases.

In the autumn of last year a case presented itself at the Philadelphia Dispensary for Skin Diseases, which in some of its features was of unusual interest. The patient, a boy, aged 14, was brought for advice concerning a peculiar eruption which had appeared a few days previously. An examination evinced the following: On the breast and upper part of the abdomen were twenty to thirty bright-red annular patches, varying in size from a pin-head to a quarter dollar, with the interior apparently free and of normal color; except the few vesico-papular points, all these patches were perfect rings. In the centre of each ring were the flattened remains of a papular or vesico-papular elevation. The rings were absolutely perfect as such, the band being about one line in width, and apparently made up of adjacent papules, which, however, had so coalesced that the band was one continuous wall. These when pricked emitted a small amount of serous fluid, disclosing their partly vesicular nature. A few of the rings were merely erythematous, devoid of any papular centre, on a level with the surrounding skin, and the color entirely disappearing upon pressure. On the dorsal surface of the arm and forearm were a dozen patches of the same character, except that the vesicular nature was still more evident. On the anterior surface were also a few rings and two or three erythematous spots. On the back, especially between the shoulders, were numerous annular patches. On the legs, anteriorly, were numerous papular points and small rings; also on the inner surface of the thigh anteriorly. This constituted the extent and character of the eruption when first seen, two days after its appearance—erythematous, vesico-papular, and vesicular rings, papular points, and a few erythematous spots.

There was no systemic disturbance, but on the contrary, the boy was in good health, evidently, however, a stranger to the bath. A few days later a second and a third ring had appeared outside of the first; several new ones also had arisen. Thus the case progressed for four weeks, the patches becoming confluent, especially those on the breast, where they so coalesced that there was but one large irregularly outlined patch, the interior showing the fading variegated colors of the original patches. Desiccation of the older rings ensued, as the outer rings appeared, and were covered with a thin scale. Indeed, there was very little crusting, except on the patches on the inner surface of the thigh. Here the vesicles had somewhat enlarged, and had become excoriated, and the process ended in slight crusting.

On the abdomen the patches remained discrete, and were formed of as many as five or six distinct rings, the outermost several inches in diameter, and in various stages of maturation and decadence. Those on the arm, legs, and back underwent the same changes, the patches consisting, however, of only two or three rings, and mostly of an erythematous, or, at the most, of a papular nature.

The colors were variegated and most beautifully shown, particularly in the patches on the abdomen and breast. Instead of seeming to be the result of disease, they appeared as if painted by the artist's brush.

At the end of the fourth week no new patches appeared, and the process gradually declined. However, it was not until more than three months had elapsed that all traces of the eruption had disappeared. As intimated, the disease ended in desquamation, rather than in crusting. There were no subjective symptoms. The case was of interest in several respects: the extent of the eruption; the exemption of the dorsal surface of the hands and feet, parts which are the favorite sites of the disease; the artistic display of color; the varied nature of the eruption; the large patches, composed of as many as six rings; and the duration of the affection.

ANEURISM OF THE ARCH OF THE AORTA SUCCESSFULLY TREATED BY IODIDE OF POTASSIUM.

By BENJAMIN RHETT, M.D.,
of summerville, s. c.

The value of large doses of iodide of patassium in the treatment of aneurism, is so well established that to record the treatment of aneurism of the trunk of any ordinary artery with that salt, would seem a work of supererogation. But I regard the case I am about to relate as sufficiently unique to justify its publication. At the date of treatment, February, 1875, I had never met with a record of a successful case of treatment of aortic aneurism by iodide of potassium; since that time I have seen one case of the abdominal aorta, if I remember aright.

The notes of this case were made at the time of treatment, with a view to future publication, after a sufficient time had elapsed to verify the permanence of cure (if cure it be), but were put aside and forgotten until a few days ago, when I examined the patient for a supposed return of her trouble, but could detect no signs of dilatation or pulsation in the locality of the aneurism.

In February, 1875, I was called to see Mrs. Catharine S., a colored woman of the better class, who seemed to be suffering great distress, partly due to nervous disturbance and partly to pain. She

gave the following account of herself, that fifteen or twenty years before she had an attack of inflammatory rheumatism; that from that time she had been more or less subject to rheumatic pains; that some time previous she had begun to suffer with what she supposed was beating of her heart, pain and numbness in her left shoulder and down her left arm on its inner side, also pain and numbness on left side of her neck and head, and a jarring sensation in the supra- and subclavicular spaces, and that these discomforts interfered with her sleeping. Although fleshy, she was pale, and had an habitually scared expression of face.

Upon stripping her, so as to lay bare the left shoulder and upper part of the thorax, a roundness or bulge at the root of the neck, and between the clavicle and scapula, was very perceptible, and pulsation of a heaving or billowy character in the part was plainly obvious to the sight. This pulsation conveyed to the ear a loud blowing (bruit) in the supra- and subclavicular fossæ, which was synchronous with the pulse at the left wrist.

As her disease had been pronounced by the physician who had charge of the case before it came into my hands, to be one of "heart disease" (so Mrs. S. informed me), I made a careful examination with a view to detect either valvular insufficiency or hypertrophy, but I could find nothing abnormal about the heart sounds; but I must say that these sounds were almost masked by the loud sawing bruit of the aneurism.

After careful investigation and due consideration of all the features of the case, I concluded that Mrs. S. suffered habitually from rheumatic gout, that she also had an aneurism of the arch of the aorta, and that the aortic wall had yielded at that portion where the left carotid and subclavian were given off. My reasons for thinking thus were that the numbness and pain extended not only down the inner portion of the arm, but up the side of the neck and head, and the locality of the aneurismal enlargement indicated this.

Operative interference was clearly out of the question, and although I looked upon any treatment as futile, I determined to try, as a *dernier ressort*, iodide of potassium, given in large doses, with a view to saturation of the blood, and with the very faintest hope, and no expectation, that coagulation in the aneurismal sac might occur, although I well understood that at a few inches from the ventricle the force of the blood current driven with powerful force, and almost direct impact upon the diseased walls, would be almost certain to wash away any coagula that might form within the sac.

The patient was advised to take, and did take, from 75 to 80 grains of iodide of potassium in syrup of sarsaparilla, as a vehicle, daily for six weeks, with decided mitigation of her trouble, but she complained so much of the scrapiness of her throat, and other ill feelings, that a short respite was given her, when she again used the same quantity of the salt for about a month.

Upon my last visit in 1875 an examination was made, when every sign of pulsation had ceased, and the pains in her shoulder, arm, neck, and head had undergone a decided mitigation, although not entirely relieved. Six months after I examined her again, and could detect no pulsation. Over seven years have elapsed, and being summoned to her, for supposed return of her trouble, I took the opportunity to examine again, and can detect no vestiges of the aneurismal bruit or dilatation. Being the subject of rheumatic gout, she suffers from gouty dyspepsia and reflex cardiac trouble, which led her to think that her aneurism was returning. She still complains of some pain and numbness down the inner surface of the arm.

When I took charge of Mrs. S. I found her accustomed to take digitalis, whenever she suffered exacerbations, which occurred from dyspeptic cardiac disturbance. She did this by the advice of her physician, and experienced considerable relief. As I have said, I concluded this cardiac disturbance to be reflex from gastric disorder. As I regarded the increasing the vigor of the heart's contractions by digitalis as not unattended with danger to the integrity of the aneurismal sac, I substituted monobromide of camphor, much vaunted at that time for such ailments, and found it perfectly inert, and Mrs. S. has continued to this day occasionally to use digitalis for this reflex cardiac disturbance, as she states, with advantage.

The result was so unexpected, that I have been at times tempted to doubt the accuracy of my diagnosis, but after carefully reviewing all the facts of the case, I cannot but come to the conclusion that this was a case of aneurism of the arch of the aorta, and that coagulation within the sac, and its subsequent obliteration, has been accomplished by the administration of large doses of iodide of potassium, kept up for a period of three months with a short rest, and that, if I am correct, the fact is worth putting on record.

APHONIA, WITH ABSENCE OF ARYTENOID CARTILAGES AND VOCAL CORDS.

By F. A. BURRALL, M.D.,
ATTENDING PHYSICIAN TO THE PRESBYTERIAN HOSPITAL, NEW YORK.

P. B., æt. 47, German, single, sailor, admitted July 18. Family history: Father died at the age of 81, mother at 64; causes of death unknown to patient; brothers and sisters living and healthy. Previous history: Patient has always been strong and healthy; fifteen years ago had Panama fever, but recovered entirely. Denies ever having had any venereal disease. His present illness commenced twelve months ago, when he caught cold and commenced to spit up a thick jelly-like sputum. Since then he has lost flesh and strength steadily, and has had night-sweats. He first became aphonic last month; has had pain in the region of the larynx for five months, which pain was increased by swallowing. The appetite is poor, the bowels generally regular.

On admission the patient had the appearance of having been a strong and robust man, but he is now bent and emaciated. He is weak, and seems to have lost all vigor and ambition. Appetite poor, bowels loose. He is probably anæmic, but this

condition is concealed by a decided bronze hue of the skin. The aphonia still persists. Physical examination would indicate the condition known as "fibrous phthisis," there being a general retraction of the chest-walls, dulness over the whole lung, and no moist sounds on auscultation. Ordered quinia, iron, and nucis vomicæ ext. in tonic doses, and good nutritious diet.

July 20.—The above drugs were discontinued, and in their place ordered spts. frumenti in a bitter infusion ℥ss t. i. d., also elix. ferri. phosp., quinia et strychnia, the dose to be gradually increased until the influence of the strychnia is apparent.

31st.—Since the last note the patient has been improving slightly, and his whisper seems a little stronger; the above preparations have not been used in large doses, as the system could not tolerate them.

August 1.—The patient's throat was to-day examined with a laryngoscope. At this time he told of spitting up five or six minute bodies, which he compared to small pieces of square matches half an inch long. The examination showed that the epiglottis presented a peculiar appearance, being, as it were, folded upon itself or curled up laterally. The vocal cords and arytenoid cartilages were missing, and to this absence of organs his loss of voice is ascribed.

5th.—Patient's throat was again examined as above, and the same state of affairs confirmed.

18th.—Since last note the patient has gradually improved in his general health, but his local condition remains unaltered.

Aphonia may depend upon a variety of causes, such as hysteria, syphilis, the presence of a laryngeal tumor, swelling of the arytenoid cartilages, paralysis of the muscles attached to the chordæ vocales, and a number of other factors which prevent proper approximation of the vocal cords. With the laryngoscope the diagnosis of the cause is as a rule easy, since the larynx lies exposed before us and we examine its condition as we do that of other visible organs. Without it, the recognition of laryngeal disease is like guessing at the contents of a covered box, and with it, the cover is removed. The instrument is, however, regarded too much as the special property of the laryngologist, whereas it is, next to the thermometer, one of the most important instruments of precision which special study has shown to be necessary for general use, since while it often may be, and too often is, dispensed with, it is, for the proper diagnosis of laryngeal disorders, quite indispensable. With a fair amount of perseverance almost any practitioner may learn to use it, and the labor is amply repaid by the ready aid which it often gives.

The above case illustrates the usefulness of the laryngeal mirror. Until the loss of the organs on which speech depends was demonstrated, it was impossible to know the reason of the aphonia, but that being known, the futility of treatment became apparent. Doubtless those who confine their treatment to throat diseases alone, acquire superior dexterity and knowledge, which have their great use in certain cases, but the idea that there are great difficulties in the use of the instrument leads many to preclude themselves from a means of information which it is not an exaggeration to say should be at the service of all general practitioners.

48 West Seventeenth St.

MEDICAL PROGRESS.

The Treatment of Polydactylism.—One or more supernumerary digits, or polydactylism, is one of the most frequent of congenital deformities. It presents, however, considerable variety in its nature. In some cases there is only a mere rudiment of a finger or toe, consisting of skin and fibro-cellular tissue with usually a small piece of cartilage in the centre, adherent to one of the fingers, and more common on the inner than the outer side of the hand. In some cases the digit is perfectly formed, and articulates either with the shaft of a phalanx or a metacarpal bone of another digit, sometimes in common with the normal finger, with a broad head of a metacarpal bone, or in still rarer instances, upon one extremity of a bifurcated metacarpal or metatarsal bone. Cases are also met with in which the additional finger or toe has been united along its whole length with the next digit—a combination of polydactylism and webbed finger. Where the digit is a mere rudiment, it is always an unsightly and useless appendage, and should be removed at quite an early age by division of the pedicle with the ligature, knife, or, as recommended by M. Polaillon, the galvanic cautery. Where, however, the digit is fully formed, and supplied with muscles, so that it shares in the movements of its fellows, it becomes a question whether it should be removed, the answer to which depends upon the utility of the supernumerary digit and the extent of the deformity occasioned by it. The removal of these digits is a perfectly simple operation; but when they articulate with a metacarpal bone within the same capsule as the normal digit, there is a danger of exciting inflammation in this joint, and of so causing anchylosis. To obviate this M. Sédillot advised that in such cases the amputation should be made through the base of the digit to be removed, so as to leave the articulation intact. This plan has been generally adopted of late years, but there seem to be reasons for modifying Sédillot's advice. In the first place, we are now enabled to open healthy joints without exciting inflammation or running the risk of anchylosis. And in at least three cases the base of the digit left behind has subsequently grown, and in part reproduced the deformity. M. Chrétien, to whom such a case has recently occurred, has suggested that the explanation of this is that the base of the phalanx is ossified from a separate epiphysial centre, and that when the amputation is so performed as to leave the epiphysis unimpaired, it may continue its independent development. In the rare cases of a bifid metacarpal bone, the amputation should be made at the point where the shaft of the bone bifurcates. There is, of course, less reason for undertaking any of these operations in the foot than in the hand.—*Lancet*, September 23, 1882.

Abdominal Typhus in Children.—Dr. Röth (*Arch. f. Kinderheilk.*) reports his observation on eighty-two cases of this disease in children under fifteen years of age; twenty-nine of these were in the children's hospital, and fifty-three at the poly-clinic at Heidelberg. Under one year of age, there was one child, nine from two to five years, thirty from six to ten, and forty-two from eleven to fifteen. Of the eighty-two cases, eight ended fatally, and two others

died from relapses. In a minority of the cases, the disease was ushered in by a chill, after which the temperature rapidly increased. In the majority the incubation stage lasted from three to seven days, then followed, as a rule, febris continua remittens, which lasted from six to twenty-five days, with evening rise of temperature to from 39.5° to 40°. Finally there was febris intermittens, lasting from four to five days. The spleen was enlarged in sixty-two cases, but there was no enlargement discoverable in some of the most severe cases. The roseola appeared between the sixth and eleventh day and was tolerably constant. In some it was very slight and transient, continuing scarcely a day. In others it failed wholly. In forty-three cases its presence was doubtful; in thirty-seven it was unmistakably present. In forty-six, bronchial catarrh was a complication; in seven, bronchitis and broncho-pneumonia. There were eight relapses, five slight, and three severe, of the latter, two died.—*Physician and Surgeon*, October, 1882.

EXTRA-PERITONEAL NEPHRECTOMY.—Under this title DR. L. BRICHETTI reports an interesting series of experiments performed on dogs. All his cases (the number is not stated) recovered promptly; the author attributes his success to his precaution in not placing a clamp on the pedicle of the kidney, and to having ligated the vessels and ureter separately. His cases of experimental nephrotomy have been equally successful.

Brichetti advises the incision of the kidney, instead of nephrectomy, as advised by Billroth, in cases of suppuration of the kidney, such as follows gunshot wounds. Drainage and antiseptic injections will then constitute all the necessary after-treatment.

Nephrectomy should be reserved for renal tumors of a malignant character.—*L'Union Médicale*, September 23, 1882.

ETIOLOGY OF HEMORRHAGIC VARIOLA.—At the Rochelle Congress (*Gaz. des Hôp.*, September 5) DR. PETIT read a paper on this subject, in which he came to the conclusion that the visceral alterations found at the autopsy of individuals dying of it should really be regarded as the *causes*, rather than the effects, of this form of smallpox. The same may be said of other forms (usually termed malignant) of this and some other affections. It is necessary, however, to distinguish between two forms of the alterations observed, viz., those which are of old date, as degeneration, steatosis, sclerosis, etc., and those of recent origin, as interstitial hemorrhages. Visceral lesions, whether causes or effects of a morbid condition of the economy, act on variola as they do on traumatic lesions, by imparting modifications to the blood or tissues, and especially the capillaries. Among the subjects predisposed to hemorrhagic variola may be ranged those who have already suffered from diseases of the liver, spleen, kidneys, heart, and perhaps lungs, or from affections capable of producing serious change in these viscera, as rheumatism, scarlatina, paludism, alcoholism, pregnancy, etc. Although we may not be able to point to any therapeutical advantage derivable from these etiological conclusions, they may aid our prognosis when individuals, the subjects of these conditions, contract smallpox. Such cases will very probably exhibit the hemorrhagic form, or even some other still more serious one.—*Med. Times and Gaz.*, September 23, 1882.

MILK-POWDER IN GASTRIC AFFECTIONS.—DR. DEBOVE, in a communication to the Paris Hospital Medical Society (*Gaz. Hebdomadaire*, August 25), observes that the milk regimen, which is so indispensable in affections of the stomach, and especially simple ulcer, speedily becomes so disgusting to these patients that it has to be left off. This serious inconvenience, however, may be remedied by the employment of the œsophageal tube, now used for feeding phthisical patients. But by this only a litre of milk can be introduced at a time, so that it would require to be employed six times in order to introduce the six litres, which is the mean quantity required for the subjects of *ulcus rotundum*. To avoid this frequent introduction of the tube, Dr. Debove has had skimmed milk evaporated (cream being but slightly digestible), and the residue reduced to a fine powder. If this be dissolved in warm milk, two or three litres of milk may be injected in the same volume as a single litre. It is possible that this milk powder, which furnishes excellent results in gastric affection, may also prove very useful in Bright's disease, cardiac affections, and all cases in which a milk regimen is employed. About a litre of pure milk is represented by 120 grammes of the powder. Dr. Dujardin-Beaumetz observed that in feeding the subjects of phthisis with the tube he has obtained excellent results from a mixture of powder of meat, powder of blood, and powder of milk. As powder of blood is not very digestible, he only adds a small proportion of that as a ferruginous principle.—*Med. Times and Gaz.*, September 23, 1882.

TUBERCULOSIS OF THE TONGUE.—DR. THOMAYER, of Prague, describes three cases of tubercular ulceration of the tongue. In one a wide fissure existed about the middle of the dorsum, with yellow-coated base, and prominent coarse tubercular nodules at its margins. In both lungs there was widespread tubercular disease. In the second case the ulcer occupied the right half of the tip of the organ, and was characterized by numerous firm granulations in part of its base, the rest being covered by a thick yellow layer; the margins of the ulcer were also firm, beset with gray and yellow granulations. The ulcer bled slightly, and was not benefited by treatment. The third case was similar, only the ulcer was seated on the frænum. It was treated by the topical application of chloride of zinc, which produces only temporary benefit in the breaking down of the nodules. Microscopical examination was made of the diseased organ in the two fatal cases. The ulceration had destroyed the mucous membrane and submucous tissue, and the base was formed by a thick layer of small rounded cells, intersected here and there by muscular bundles. Beneath this layer, there spread into the intermuscular spaces masses of similar cells, which, under high powers, were found to consist partly of giant-cells, and to be separated by the delicate stroma of tubercle. Some isolated tubercles were found deep in the substance of the organ. The muscular fibres themselves seemed invaded by the cell-growth, which was not limited to the intermuscular spaces. There was proliferation of muscle nuclei and of endothelium of the bloodvessels. Dr. Thomayer says that the extent of the lesion demonstrates the futility of treating these ulcers by caustics, and points to the advisability of excision.—*Lancet*, September 23, 1882.

AMPUTATION OF THE SHOULDER.—In a case of osteosarcoma of the scapula, M. DEPRÈS has conceived and executed with success the plan of amputating the shoulder, that is to say, of removing the arm with the scapula and a portion of the clavicle. The dangers of this operation lie, 1st, in the great loss of venous blood; and 2d, in the entrance of air into the axillary vein; but these accidents are not infalliby fatal.

In the case operated on, syncope and foaming at the mouth occurred, but the patient recovered; the wound was healed in two months.—*Rev. Scientifique*, September 23, 1882.

A Case of Spontaneous Rupture of the Spleen.—Dr. F. M. Calkins reports the case of a woman, aged 45, who, being in usual health, was awakened while in bed, at about 1 o'clock in the morning, by a severe pain in the abdomen. She described the pain as tearing, as if something was giving way. Dr. Calkins was not called until 12 o'clock noon, and when he reached the bedside he found the patient pulseless and in a complete state of collapse. She rapidly sank and died one hour after his arrival. From the previous history, it appears that thirteen years previous to her death she had suffered severely from malarial fever, which resulted in an enlarged spleen. The splenic enlargement increased in growth for about three years, when it apparently ceased to increase in size. The tumor, as examined through the abdominal walls, was located in the region about midway within the left lumbar and inguinal spaces, and from its position had been previously diagnosed by some as ovarian tumor. The enlargement of late years had caused the patient but little trouble or anxiety. It sometimes at long intervals gave her a few hours of severe pain, but passing off left her apparently well.

A post-mortem examination was made twenty-four hours after death. Upon opening the peritoneal cavity a large quantity of blood was found, which, being removed and weighed, amounted to six and one-half pounds. A large blood clot was discovered in the left inguinal region, and, in attempting its removal, it was found to be attached to the lower and convex surface of the displaced spleen. The spleen was lying in the lower lumbar and upper inguinal regions. Upon its removal, a rent or tear was found upon its inferior and convex surface, measuring in length five and one-half inches. Its weight was two pounds and ten ounces, about six times its average weight. No microscopal examination of its tissue was made. Its peritoneal covering was, by inflammatory adhesions, attached to the abdominal wall showing previous local peritonitis. The other abdominal viscera appeared normal. The general appearance of the spleen did not indicate great softening, and its rupture was, in Dr. Calkins' judgment, due to over-distention of the organ by blood engorgement.—*Michigan Med. News*, Sept. 25, 1882.

Osteotomy and Tarsotomy in the Treatment of Congenital Club-foot.—At the meeting of the Académie de Médecine, held September 19, M. Jules Guérin read a paper on this subject, of which the following are the conclusions:

1. Tarsotomy, the ablation and resection of the tarsus to remedy club-foot, even when of the most serious character, is an operation which should be discarded as one of the most unjustifiable abuses of surgery.

2. This method results in a dangerous and useless mutilation of the foot, and should always be supplanted by the more scientific methods of tenotomy, syndesmotony, massage, and orthopædic apparatus.

3. Even in cases of inveterate club-foot in the adult this method is not preferable to the attempt to overcome the deformity by appropriate apparatus.—*L' Union Médicale*, September 21, 1882.

Ferruginous Livers.—The presence of an excess of iron in the livers of anæmic patients is a curious fact, of which several instances have been described in Germany. One case was described by Stahel: and Lindenlang, in the liver of a patient with purpura, found a considerable excess of iron. Marchand has lately described the liver of a phthisical patient, aged sixty years, which presented an unusual brownish-red color associated with evident cirrhosis. The microscope showed an infiltration of the hepatic cells and of the interstitial connective tissue by pigmentary corpuscles, which gave the characteristic test for iron with yellow ferrocyanide. A chemical analysis showed that the ashes contained not less than 30 per cent. of iron. It has been supposed that the excess of iron is the result of an abnormal destruction of red blood-corpuscles in the organ, but it is open to question whether it is more than the result of the free administration of iron by the mouth.—*Lancet*, September 23, 1882.

An Undescribed Disease of Infants.—Dr. Riga (*Movimento Med. Chir.*) has observed a pernicious disease of the mucous membrane of the child's mouth. It consists of the formation of a false membrane between the end of the tongue and the frænum. The membrane is round and small. Children, in whose mouth this appears, lose strength rapidly, refuse to nurse, and ninety per cent. of them die. The disease has been observed only in summer and is always associated with intestinal catarrh. It lasts from two to eight weeks. It is found in children only during the first dentition, it is not contagious, but appears to be infectious. In the Terra di Levoro the disease has been endemic for sixty or seventy years. During the past decade, there has been no diphtheria in that region. No scientific study of the disease or membrane has yet been made.—*Physician and Surgeon*, Oct. 1882.

The Alleged Digestive Capabilities of the White Blood-corpuscles.—Mr. E. A. Schaffer has made a number of experiments to settle this point, chiefly with the white corpuscles of the newt, and these have been tested with particles of proteid, of fat, and of starch, which in every case were suspended in salt solution. The proteid particles were in the shape of torulæ of yeast (which were presented to the corpuscles either in the living condition or after having been killed by boiling); the fat was in the shape of milk-globules; and the starch employed was obtained by washing the dough of wheaten flour with salt solution, and, after allowing time for the coarser granules to subside, taking a drop of the supernatant fluid containing the finest particles in suspension.

The general results of the experiments may here be briefly enumerated. In no case observed, although the period of observation extended in some instances to one or even two days, and was never less than five hours, did any particle entirely disappear by solution within the corpuscle. In some cases, the particles became surrounded by a zone of clear fluid, and, included in this, were moved about by the streaming of the protoplasm to different parts of the corpuscle; but, to all appearance, they remained unaltered. Exception may perhaps be made for the yeast torulæ, in which, in many instances, the distinction between the protoplasm and its included vacuole became obscured, but it was not possible to affirm that this was due to anything else than the lessened distinctness with which the torulæ could be seen in the irregular corpuscle. In the case of starch-granules, it was found that however minute they might be, and however long included, the addition of iodine solution always produced in them the usual intense blue color. It was noted, however, that the protoplasm of white corpuscles, which had retained many starch-granules, tended to be more deeply tinged by iodine than that of others which contained no starch, whence perhaps it may be inferred that a small amount of starch has undergone transformation into dextrine. On the other hand, it was not found that white corpuscles, which had been abundantly fed with starch, exhibited, on subsequent treatment with iodine, more of the claret-tinted protrusions indicative of glycogen than others which had not contained any starch-granules.

It is clear, from the generally negative character of the results obtained, that the assumption of the possession by indifferent protoplasm, and especially by that of the white corpuscle, of distinct digestive powers, rests upon an entirely insufficient basis of fact; and, although it is scarcely possible to prove that no change whatever occurs in the included organic particles, it may yet be affirmed that, if any change is produced, it is so slight in amount as to be altogether beyond the range of our present means of observation. Moreover, considering that the white corpuscle inhabits a medium which contains in solution all the elements necessary for its nutrition, there is, *à priori*, an improbability of its possessing the means of reducing them from the solid to the fluid condition.—*British Medical Journal*, September 23, 1882.

HYALINE DEGENERATION.—In the last number of Virchow's *Archiv*, DR. MAX VALLAT described in detail the process of hyaline or fibrinous degeneration of tubercular formations—a change which has only received full attention of late years, although it is not infrequent in other structures, especially in the wall of arteries. In tubercles, it is best observed in those which occur in the spleen, lymphatic glands, and liver, and is to be regarded as an early stage of caseous degeneration. Dr. Vallat concludes that it is formed from the reticulum of the peripheral zone of the tubercles, and also from the trabecular tissue of the spleen and lymphatic glands, the bands becoming thickened, homogeneous, and glistening, whilst the spaces between the original fibres become converted into narrow channels in which only the nuclei of the cells that formerly existed there remain. In the tubercle it also replaces the epithelioid and giant cells, the former appearing to be converted into homogenous non-nucleated masses. The precise share taken by the giant cells in the formation is unknown. The channels left between the degenerated and swollen bands allow of the passage of fluid and pigment particles into the interior of the tubercle. In caseating the material breaks up into a finely granular mass, and is often found to be beset with nuclei, either the relics of previously existing cells or immigrants from surrounding vessels.—*Lancet*, September 23, 1882.

CONTRIBUTIONS TO THE CHEMISTRY OF BILE.—The remarkable behavior of the galls of Tübingen cattle with ether and hydrochloric acid, has already been noticed by G. HÜFNER, (*Journ. Chem. Soc.*, August, 1882). It was thought that a study of the relative quantities of glycocholic and taurocholic acids in different samples of bile would explain why some crystallized at once on addition of ether and hydrochloric acid, and other kinds refused to do so. To this end, ten samples of bile were analyzed, six of which gave a rapid crystallization of glycocholic acid, one a weak one, and three none at all; it was found that the quantities of taurocholic and glycocholic acids respectively were as one to five in the samples from which the latter acid crystallized rapidly, and about equal in those where no crystallization at all occurred. That this result had nothing to do with the question as to the absolute increase or decrease in quantity of each acid in the bile was shown by the fact that dilution in the one case did not put a stop to crystallization, whilst in the other concentration did not induce it.

Again, experiments with mixtures of the pure salts of taurocholic and glycocholic acids showed that the relative proportion of two acids present in solution together had very little, if any, effect on the crystallization of the latter. Hence those biles in which there is no appearance of crystallization of glycocholic acid on addition of ether and hydrochloric acid, must contain some other body, the presence of which is possibly dependent on the nature of the animal's diet, and which prevents the crystallization of glycocholic acid under those conditions.—*American Journal of Pharmacy*, Oct. 1882.

VACCINE CHARBONNEUX.—From the subjoined report it will be seen that Dr. Klein has arrived at conclusions—based upon comparatively few experiments, it is true—adverse to the general adoption in this country of Pasteur's proposal to inoculate cattle with anthrax as a prophylactic measure against that disastrous disease. The report has been communicated to the Veterinary Department of the Privy Council by the Local Government Board, and is published in the current number of the *Veterinarian:*

"Vaccin charbonneux is to be obtained, and is announced to be obtainable (in the *Farmer*), from M. Bontroux, agent of M. Pasteur in Paris (applicants to M. Pasteur are referred to M. Bontroux), and, as I happen to know, it is brought over and sold and used in considerable quantities. The 'vaccin' is sold in tubes (each containing enough lymph for the inoculation of one hundred sheep or fifty cattle) as 'premier vaccin charbonneux' and as 'deuxième vaccin charbonneux.' The 'premier vaccin,' according to the printed directions accompanying each lot, is inoculated first; after a lapse of twelve to fifteen days the 'deuxième vaccin' is used in the same manner. The animals thus twice inoculated are supposed to immune against fatal anthrax. I have obtained through two independent sources two lots of this vaccin charbonneux (premier and deuxième), and have tested them by experiments. The results of these experiments enable me to say—(*a*) animals inoculated with this 'vaccin' (premier and deuxième) are not made immune against fatal anthrax; and (*b*) both the first and second vaccin may produce fatal anthrax. The following facts prove these propositions:

Experiments with Lot A.—Inoculated with 'premier vaccin,' two sheep, two guinea-pigs, and two mice; no change in any animal. Inoculated with 'deuxième vaccin,' the above two sheep and the above two guinea-pigs. One of these sheep showed rise of temperature, and falling off in food for the first two days after this second inoculation, but was all right again after three days. The two guinea-pigs were dead of typical anthrax within forty-eight hours. The above mice were inoculated with the blood of one of these guinea-pigs. Both mice were dead of typical anthrax within forty-eight hours. The two sheep having been inoculated with the premier and deuxième vaccin ought to have been immune against fatal anthrax. Now see what happened: according to M. Pasteur, the *Bacillus anthracis* of blood of an animal dead of anthrax, when cultivated at 42°–43° C. for twelve days, loses all virulence and becomes thereby converted into 'vaccin.' I had grown the *Bacillus anthracis* of blood of a guinea-pig dead of anthrax at a temperatnre of 42°–43° C. for *twenty-one days*, and with this culture I inoculated the above two sheep. The result was that both animals were dead of typical anthrax within forty-eight hours.

Experiments with Lot B.—Inoculated with 'premier vaccin' four guinea-pigs and six mice. Within forty-eight hours three of the guinea-pigs and three of the mice were dead of typical anthrax. My method of using the fluids for inoculation absolutely precludes any accidental contamination, and hence these results must be accepted as perfectly reliable. This country is comparatively free from anthrax, and therefore the introduction and use of this so-called 'vaccin charbonneux' seems to me most dangerous, and capable of producing incalculable mischief."—*Lancet*, September 23, 1882.

The Digestion of Drugs.—Therapeutists have paid little attention to the changes which drugs, administered by the mouth, undergo in the digestive organs before they are absorbed, except in the case of those inorganic substances which are given for their direct effect on the gastric mucous membrane. The practitioner gives other drugs, for the most part, without considering how far they may be altered before they leave the alimentary canal. He is guided by what is known of their subsequent action on the system and of their effect in disease, and he is no doubt thus guided, in the main, correctly. Nevertheless, the subject is not an unimportant one, since the influence of the digestive ferments on drugs must, or rather should, determine the time of their administration in relation to the process of digestion. At present, careful attention is paid to this point in choosing the time at which to administer those therapeutic agents which are designed to have a direct action on the stomach, but, as regards others, it is not considered, except in so far as it influences the rapidity of their absorption. No facts, indeed, have hitherto been available for the guidance of the practitioner on this important subject. It is only since the processes for artificial digestion have been perfected that it has become possible to ascertain such facts, and the subject is certainly worthy of the attention of the pharmacological experimentalist.

These remarks are suggested by a series of experiments of this nature, although with a different object, which were described at the recent meeting of the Pharmaceutical Conference by Mr. George Brownen. This gentleman has endeavored to ascertain to what extent the digestive ferments may be made available for the production of preparations of various drugs. The question necessarily involved that of the extent to which their active principles suffered in the process. The constituents of rhubarb were found to be extracted, with remarkable completeness, by treating an infusion first with an acid preparation of pepsin, and then, after neutralization, with an alkaline solution of pancreatin. The former extracted 47 per cent. of the rhubarb, and the latter 13 per cent. more, leaving only a residue of cellulose and earthy salts. Infusion of calumba, prepared with boiling water, and passed through a similar process of digestion, gave somewhat similar results; only spongy cellulose, associated with a trace of berberia, was left. Cinchona and opium, on the other hand, behaved differently; the gummy and extractive matters were dissolved and retained in solution, but a considerable quantity of the alkaloids was left behind. About half the cinchona and two-thirds of the opium were dissolved. The cinchona tannin was destroyed in the process of digestion, and failed to precipitate gelatine. The arabin of gum acacia remained apparently unaffected by the process, but a peptonizing change was wrought upon some other constituent of gum, possibly a nitrogenous impurity. The mucilages obtained from Irish and Iceland moss were also tested, since they hold an intermediate position between foods and medicines. The alkaline extract of the pancreas seemed to exert very little action on Irish moss, although the proteolytic ferment of the pancreas, extracted with acids, soon destroyed the viscidity of the mucilage, and divided the jelly into soluble and insoluble portions. Iceland moss behaved somewhat differently. A jelly of it became flocculent when acted on by the gastric ferment, and under the influence of pancreatic extract deposited yellowish white flakes, consisting of non-crystalline masses, possibly peptic acid.

Of more direct interest, however, is the action of the digestive ferments upon definite organic compounds. The acidulated extract of the gastric juice decomposed a watery solution of salicin very slowly and imperfectly, but the pancreatic ferment split up the salicin into saligenin and glucose. Jalapin remained intact after digestion with the pepsin solution, but pancreatic digestion withdrew from it a copper-reducing substance. Neither process had any influence upon santonin. A solution of tannin, treated with the acid pepsin solution, became turbid, but the turbidity disappeared after the addition of a little more hydrochloric acid, and prolonged digestion seemed to have no further influence. The pancreatic extract, however, quickly rendered tannic acid incapable of precipitating gelatine, as it had been found to do in the experiments with cinchona bark, apparently by converting it into gallic acid. The experiments of Mr. Brownen go no further, but he has evidently opened a field of considerable importance, in which other observations will probably yield results of considerable practical value to physicians as well as to pharmacists.—*Lancet*, Sept. 23, 1882.

Iodoform in Purulent Ophthalmia.—Mr. W. J. Milles, Senior House Surgeon at Moorfield, reports (*Royal London Ophthalmic Hospital Reports*, August, 1882) that he has employed this drug for some time past in purulent affections of the conjunctiva and cornea, and he believes that, in suitable cases, it is of very great service.

The best method of using it is either in a very fine powder, when care should be taken that it is ground down very thoroughly; or in the form of ointment of variable strength, the usual form being gr. xxx to ʒj of vaseline, the stronger form to ʒj to ℥j. The importance of iodoform in ophthalmic practice is that it produces less pain and irritation than any other antiseptic that he is acquainted with; that it can be used in a concentrated form; and that it volatilizes very slowly.

Eighteen months ago he gave it in an extended trial in ophthalmia neonatorum, and came to the opinion that it was only useful when one could treat the disease from the commencement (within the first two or three days). In the later stages, when there were thickening of the lids and a granular condition of the conjunctiva, he found that its effects in stopping the purulent discharge were very slight. He was more pleased with iodoform in the treatment of gonorrhœal ophthalmia, possibly from the fact that the patients suffering from this affection were more immediately under control. The treatment was combined with the use of boracic acid lotion, or a solution of perchloride of mercury (gr. i to ℥j), and, of course, a constant application of iced compresses. In a number of cases the acuteness of the swelling and the profuse discharge rapidly diminished, and the cornea was saved under this form of treatment.

Having seen the rapidity with which an indolent ulcer of the leg changes its character under the use of iodoform, he was led to try its effect on the slowly spreading infiltrated ulcer of the cornea. It quite answered his expectations. In several cases (though other treatment had been tried without effect), with the constant application of iodoform, the ulcers ceased to spread, the infiltration of their edges rapidly disappeared, and a rapid recovery ensued.

Excision of Primary Syphilitic Induration.—Dr. Tomaschewsky, writing of an investigation which he had conducted in Prof. Tarnowsky's clinic (*Petersb. Med. Woch.*, September 9) to ascertain what effect incision of primary syphilitic induration exerts upon the appearance and course of secondary symptoms, states as the result of trials made in fifty-eight cases in which excision was performed at the tenth to the fourteenth day of the disease, that these were nowise influenced,

the course of the disease continuing just as if no excision had been made.—*Med. Times and Gaz.*, September 23, 1882.

THE MODIFICATIONS IN THE CALIBRE OF BLOOD-VESSELS IN AMPUTATED LIMBS.—From a careful examination of the calibre of the bloodvessels in stumps, M. SEGOND has found:

1. That after amputation the calibre of arteries and veins of the limb subjected to operation nearly always decreases. This is even observed when the amputated portion represents, as in the case of amputation of the hand or foot, only a small portion of the limb.

2. The extent of this diminution in calibre is not limited to the stump itself, but exists in the entirety of the mutilated member.

3. The reduction in calibre can not be attributed to atrophy of the limb, as it occurs before the limb undergoes atrophy.

4. The primitive reduction in calibre of the vessels is probably an active cause in the production of atrophy in limbs of which a portion has been amputated.—*Revue de Chirurgie*, September, 1882.

THE SUTURE OF DIVIDED FLEXOR TENDONS OF THE HAND.—DR. JOHN CHAMBERS reports two cases of division of flexor tendons of the hand. One was left to nature and resulted in a disabled finger; the other was sutured and a cure was obtained. He gives the following directions as to details in operating:

1. Before using the knife, pass a fine director into the sheath as a guide to the incisions; otherwise there will be difficulty in finding it, as it is in a collapsed state from retraction of the tendon. The sheath must be slightly incised at the proximal and distal ends to allow of sufficient exposure of the tendon to pass the suture.

2. Use a fine needle with a large eye, entering it a quarter of an inch from the ends of the tendon, which should be merely approximated. If the ends are drawn closely together, the tension may cause the tendon to split.

3. Catgut, well carbolized, as made in Edinburgh, is preferable to other material for sutures. The ends should be cut off short.

4. Strict antisepticism is desirable to secure the best results. While suppuration occured in the case reported, it was, he thinks, owing to the fact that in closing the external wound free drainage was not sufficiently provided for. As a result, the secretion from the irritated synovial sheath was free, giving rise to tension, exciting inflammation, and marring the normal reparative process. It is essential to the success of the antiseptic method in all operations, that drainage be well attended to.

5. Keep the finger or thumb, as the case may be, moderately flexed, with the hand secured to a well-padded splint by a lightly applied bandage.

6. Commence passive motion as soon as the external wound is healed.—*Indiana Med. Journ.*, Sept. 1882.

THE NATURE OF RIGOR MORTIS.—The question of the cause of the different kinds of rigor in the muscle has been discussed anew, this time by MISS SCHIPILOFF (*Centr. f. d. med. Wiss.*, 1882, p. 291). She sought an analogy between the changes of myosin in salt solutions and those of the myosin in the muscle. Particularly interesting are the comparisons between the *rigor mortis* and the *rigor caloris*. Myosin, which is precipitated from its solutions by acids and by a small quantity of distilled water, retains its chemical character, and does not change into syntonin nor into the insoluble modification; hence fresh muscles and those which have become spontaneously rigid must contain the same amount of myosin (if its changes cause rigor), which is found by experiment to be true. Again, myosin is precipitated from its solutions by heat, but the body thus obtained is no longer myosin, and is completely insoluble in NH_4Cl, hence the *rigor caloris* must be totally different from the normal spontaneous *rigor mortis*. "The *rigor mortis* depends upon a temporary precipitation of chemically unaltered myosin from its semi-liquid condition in the muscle plasma; this precipitation is caused by the post-mortal development of acidity, whose further increase brings about a resolution of the rigor in muscular tissues which have not yet become putrefied."—*Boston Med. and Surg. Journ.*, September 28, 1882.

MUSCULAR ATROPHY FOLLOWING INJURY TO JOINTS.—A patient (male, aged twenty-three) came under M. CHARCOT'S observation with the following history: A year before, he had sustained a slight injury to his right knee by falling, but had walked for some distance directly afterwards. A trifling swelling of the joint supervened, and lasted for a few days; but the loss of power in that leg was quite out of proportion to the apparent amount of joint-trouble, and did not improve when this latter quite passed off. When he came to the hospital a year later the thigh was obviously wasted in front; the quadriceps femoris did not respond to the induced current, nor to a strong constant current. It was clear, therefore, that there was no "degenerative" atrophy such as occurs in infantile paralysis (when a muscle does not respond to a strong induced current, but responds unduly to a weak constant current, it is said to exhibit the "degenerative" reaction). It should be noted, however, that the rectus femoris and vastus internus (the vastus externus had shown some reaction to the other forms of electricity) responded to the influence of static electricity, and that a blow on the rectus femoris was followed by contraction. The knee phenomenon was present, and excessive on both sides. There was no ankle-clonus on either side. M. Charcot lays great stress upon two points: 1. There is no necessary relation between the intensity of the articular lesion, and that of the paralytic and atrophic phenomena. 2. In cases of this kind it is the extensor muscles which suffer almost, if not quite, exclusively. The following is the mode by which M. Charcot would seek to explain these cases: "The joint-lesion has, by means of the irritated articular nerves, reacted on the spinal centre, aad there it modifies the centres whence the motor nerves, and the nerves which regulate the nutrition of the muscles, arise. There must exist in the spinal cord a more or less direct relation between the cells belonging to the articular centripetal nerves, and those of the motor and atrophic nerves of the extensors, since the result is always constant, viz., that on them, or mostly so, the atrophy falls. . . . No other theory satisfies the conditions so well; and we are reduced to admit a secondary spinal affection, in consequence of which the paralysis and atrophy are set up. . . . But what is this modification of the spinal centre? It is not a profound modification of the cells of the anterior cornua, that would be an infantile paralysis. We must, then, have to deal only with a sort of inertia, with a stupor of the cell element." To explain the exaggerated knee phenomena, he supposes that there is a morbid state of exaggerated reflex excitation in the whole extent of the spinal cord outside the area which he has already assumed to be in a state of torpor. M. Charcot would explain in the same way the paralysis and atrophy which are found in chronic articular affections, *e. g.*, chronic rheumatism. He notes that in these cases also the extensors are especially liable to be affected, and that the so-called "tendon reflexes" are in excess.—*Med. Times and Gaz.*, September 23, 1882.

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THE PHYSICAL EDUCATION OF FEMALE COLLEGE-STUDENTS.

A FEW days since, there fell under our eyes a circular issued by the "Association of Collegiate Alumnæ," on the subject of Physical Education in Colleges for Women.

In spite of the presumed editorial omniscience, we must plead previous ignorance of the very existence of such an association. It is a "Yankee notion," very evidently, for, though graduated from eight different colleges, east and west, eight of the nine officers reside in or near Boston. Nine colleges are represented in the association, viz.: Vassar, Wellesley, Smith, Oberlin, Cornell, Michigan, Wisconsin, Wesleyan, and Boston. If the association does as good work in other directions as is done in the little four-page pamphlet before us, it has an unchallenged right to exist. A table is first presented, showing the status of physical education in these nine colleges. Lectures on physiology are given in all but Wellesley—an omission which the authorities there should promptly remedy. Only three have lectures on hygiene, an error equally grave, especially when the teacher of physiology could so readily combine the teaching of hygiene with that of its handmaid. All have gymnasia except Michigan and Boston. Vassar, Smith, and Wellesley alone have calisthenics. Not one has any athletic sports proper, or athletic associations, or any definite course of physical education. Vassar and Wellesley alone require one hour of physical exercise daily, and Wellesley alone requires a certain standard of health for admission.

On the basis of these facts, the association in a few plain, forcible, and practical paragraphs, urges certain suggestions upon the parents, the college authorities, and the college students. Parents are cautioned against errors in the pre-collegiate days of their daughters, as to social life, sleep, food, clothing, exercise, etc. College authorities are urged to provide systematic courses for physical training, with requirements as to a standard of health, before entering college, and as to exercise during the college course; to establish lectureships on physiology, hygiene, heredity, gymnastics, sanitation, etc.; and to remedy existing defects in ventilation, and other sanitary requirements in college buildings. The students are urged to take proper care of their health, and the means thereto are briefly indicated. The association hopes to publish a series of short practical monographs on suitable subjects, at some future time.

If the plans of the Association are realized to any great extent, the boys will have to look to their laurels, lest the girls outstrip them in health, and possibly in some of their athletic acquirements.

It is a capital work which the Association has begun. Besides the nine colleges composing it, there are a number of other colleges for women, and all over the land a host of private and public schools, which will profit by any substantial progress they may make. We hear much ado about the deterioration of the race in physical vigor. Happily, however, there is a counter-current very strongly developed, too, among our educated classes towards a more positive bodily health. It has been asserted again and again that girls cannot pursue a thorough college course, and yet enter womanhood physically fitted for the burdens of life, especially those of the mother and the housekeeper. Dr. Clarke, Dr. Goodell, and many another have pointed to "Vassar Victims," as examples of what ruin such an education will work. Yet spite of it all women's colleges are multiplying, and men's colleges are opening their doors to women; and not a few instructors say that women can and do work as well as men, and when they work wisely, that it is done with as little danger to health. Arguments and facts are bandied to and fro without any as yet very definite conclusion.

It is of the greatest importance for us as a people to know definitely the facts in the case—not the isolated uncoördinated facts as to this girl or that, or even this college or that, but *all* the facts, from as large an area of country, and as large a number of colleges, and as large a number of women as possible. Women's colleges have now been established long enough, if not for a definite, at least for an approximate estimate of their effects on the health of their students. Accordingly, we beg leave to suggest to this admirable Association, that

no subject could better receive their earnest attention and research than the establishment of the facts in the vexed question. To do this would require considerable time and labor, but the result would be worth it all. The later histories of each graduate should be obtained, as to race, age, health, marriage, the number and health of their children, their occupations, if in ill-health, its nature and supposed cause, if deceased, the cause of death, with numerous other points which will readily suggest themselves. All this should be examined, and reported upon with an honesty above suspicion. If the future mothers of our country are being ruined physically by our methods of education, who should wish with such downright earnestness of purpose, to remedy the impending evil as our educated women themselves? If a false cry is being raised which will hamper the just and wholesome intellectual development of women, who are more interested in showing it than the graduates of our women's colleges? Truth, broad truth is what we should seek. Individual experience is apt to be very erroneous; only large numbers eliminate errors. But until facts based on such numbers are forthcoming, each of us must use his own or his neighbor's personal experience as the best, and indeed the only guide.

We present these views to the Association, as suggested by their excellent circular, and trust they will act promptly, and with an unbiased desire for truth in obtaining and publishing the results of an extended examination after the method we have indicated.

VULPIAN'S EXPERIENCE WITH ANTISEPTICS IN TYPHOID.

In his service at the Hôtel-Dieu, Vulpian has made some comparative observations on the utility of the various antiseptics employed in typhoid fever. Iodoform has not given any good results. This is the more remarkable, since this agent now occupies an important place as a remedy in septic processes. Salicylate of bismuth is an excellent antiseptic, but it is not readily soluble, and hence the large dose necessary to obtain any result—from two to three drachms daily—presents many inconveniences. It is found, also, to increase the tendency to nasal and intestinal hemorrhage. Boracic acid, carried up to the dose of three drachms daily, by regular increment of the daily dose, has not done any good. The best results have been achieved with salicylic acid. Vulpian has administered this in doses of three or four grains every half-hour until the daily quantity has reached the large proportion of three drachms. In some patients, especially in young men, he has produced some cerebral disturbance—a light delirium—in others albuminuria has appeared; but this is by no means an uncommon symptom in typhoid when left to its own course, and in some cases the albuminuria disappears when as much as 200 grains of salicylic acid are taken daily. The real cerebral effect which may, then, be referred to salicylic acid, is a slight delirium. Under the salicylic-acid treatment the temperature falls in forty-eight hours, three to four degrees; and this reduction of the body-heat is more persistent than that effected by carbolic acid. At the same time there ensues a notable amelioration of the general condition of the patient. But Vulpian does not pretend that the mortality from the disease, nor its duration, is notably diminished by the modification in its symptoms thus effected by salicylic acid.

In the course of the discussion on Vulpian's observations, it appears that the central idea of the antiseptic treatment of typhoid is to act on the typhoid germs introduced into the intestinal canal from without. Vulpian gives the preference to salicylic acid because it possesses so little toxic activity *per se*. He objects to the use of the carbolate of sodium for this purpose, because, owing to its solubility, it cannot be accumulated in the blood in sufficient quantity to act on the disease germs. The treatment by purgation during the period of invasion—the prodromal stage—was also considered. One of the modes of the "specific treatment" of typhoid, as pursued by our German colleagues, is the mercurial plan, which consists in the administration of purgative doses (ten grains) of calomel during the first week. Several doses of this kind must act in three ways: sufficient bichloride is produced to act on the typhoid germs as a poison; the germs are removed by the purgative action; the temperature is lowered by the combined result of these actions. The range of temperature has a certain relation to the number and activity of the germs present in the blood. Hence their destruction at an early period becomes very desirable.

THE ACTION OF HELENINE ON THE BACILLUS OF TUBERCULOSIS.

Still another item has been added to our long list of scientific debts to our trans-Atlantic *confrères*. While yet laden with our burden of gratitude to Koch for his alleged discovery, we learn that we are not less indebted to France. Germany, we are told, has discovered the nature of tuberculosis; France must discover its antidote. M. de Korab has saved the credit of France in this scientific rivalry.

At a recent meeting of the Académie des Sciences, M. Bouley read a note by M. de Korab, in which he detailed the results of some experiments made with helenine as an antidote to the effects of the bacillus tuberculosis. He was led to undertake

this study from the good results observed in cases of diseases of the respiratory apparatus in which helenine had been administered.

In the first place he found that this drug hindered the development of the bacilli in culture fluids, and he also claims that the administration of helenine will prevent the symptoms of tuberculosis in animals inoculated with the bacillus. Thus he reports four series of experiments: in the first series he inoculated seven guinea-pigs with the bacillus obtained from serous culture-fluids; a fatal result occurred in all; three guinea-pigs were then injected with the bacilli of the culture-fluid to which helenine had been added; no tubercular lesions appeared.

In his second series, tubercular sputa treated in the same way were substituted for the cultivated bacilli, and the same result was produced; the sputum treated with helenine was innocuous.

His third series of experiments was made on ten rabbits, into whose peritoneal cavity serum containing bacilli was injected; five of these animals received three centigrammes regularly of helenine, and showed no evidence of tuberculosis, while the five others died on the eighth to tenth day.

In this fourth series the bacilli were injected into the anterior chamber of the eye in four rabbits, and the characteristic results appeared on the tenth day; two of the rabbits received regularly two centigrammes of helenine every day; they recovered, while the two other rabbits died.

We fear that the desire to sustain the national reputation for scientific research has led M. de Korab to take a rather too enthusiastic view of the specific properties of helenine; his results are wonderfully successful, but to carry conviction as to their reliability they require the confirmatory observations of other investigators.

HYPODERMATIC INJECTIONS OF STRYCHNIA IN NERVOUS AFFECTIONS.

Dr. Cerenville strongly advises the subcutaneous injection of strychnia in chronic myelitis, when the morbid process is arrested, and in those examples of posterior spinal sclerosis characterized by trivial aggravations of the symptoms, in incontinence of urine, and in cerebral affections.

There is no danger in this mode of administering strychnia, provided the treatment is begun by small doses gradually increased. In some subjects an abnormal excitability to the action of strychnia is observed. Such cases indicate an irritative action already existing at the site of the lesion. This excitability may have diagnostic importance. If the reaction following the introduction of strychnia is excessive, or if it is excited by minute doses, it may be rightly assumed that the local morbid process is in an active state. The converse is equally true. The cumulative action of strychnia may be confounded with an abnormal excitability of the part the seat of disease. This, however, is possible only when the medicament is administered in the form of pills. When thus administered a slow accumulation may take place; but when given hypodermatically at proper intervals, the absorption and elimination of this agent occur promptly, and accumulation does not take place.

In the treatment of posterior spinal sclerosis, whilst the action of the medicament administered by the stomach was practically *nil*, when given subcutaneously the incoördination of muscular movement was lessened, and the incontinence of urine ceased altogether. When the amount of strychnia injected subcutaneously is excessive, the intolerance of patients is manifested in various ways: in one it is an excessive irritability, or at another time a temporary trismus; in another, an obstinate headache; in some, jerkings of the muscles of the neck and extremities; in others there is vesical tenesmus. The quantity of strychnia necessary to excite these phenomena will vary greatly in different subjects, according to their susceptibility, and to the state of the centric lesions.

THE LAST DITCH.

The *Medical Record*, consistently with its general advocacy of the New York Code, "can hardly believe" that the County societies seriously intended to instruct their delegates how to vote at the next meeting of the State Medical Association, and thinks that unless each delegate exercises his right to "free thought, free speech, free opinion, and free voting," a just and impartial decision can never be reached on any question. It is led into this painful state of doubt by a letter from a well-known physician who, for his part, does believe that the County societies have instructed their delegates for 1883 to vote for reversing the action of the meeting of 1882, but thinks it "a grave mistake." They agree, however, in the opinion that the particular subject to which these remarks refer—which, as has been said, was the New York Code—requires further and fair discussion and a presentation of the "different pros and cons."

We are neither so cautiously incredulous as the *Record*, nor so dissatisfied with the situation as its correspondent. Indeed we are reckless enough to feel absolutely certain that about eight-ninths of the County societies in the State of New York which have taken action on it, did deliberately, unequivocally, and almost unanimously direct their delegates to vote against the so-called "new code," at the coming February meeting of the State Medical Society, and they did it, knowing full well the exact signification and effect of their action. We

believe that when they described it as "opposed to public interests, and dishonoring a noble profession," or as "impolitic, unwise, and hurtful," or in other even more derogatory terms, they knew and meant exactly what they said, and we think, moreover, that nothing they have ever done has more clearly shown their sound common sense and high standard of professional honor.

As to the *right* of the County societies to instruct delegates in reference to their votes and influence upon any topic of general interest, it is puerile to question it. The County societies form the basis of representation in the larger association; the delegates receive from them the necessary credentials, and have always been expected to express upon all such matters the previously known sentiment of the society, and not their individual opinions. They have, at the time of receiving their appointment and instructions, ample opportunity to protest or to resign; and if they felt their condition to be one of "moral and intellectual servitude," or that their office was "humiliating," and their position "unenviable and undignified,"—to employ the touching language of the *Record's* correspondent—they would probably express themselves to that effect. It may be added also that there is every chance for fair discussion, and even for the advancement of "pros and cons," in the County societies themselves, and that when they "utterly repudiate," "protest against," "strenuously object to," and otherwise strongly disown any special theory or rule of conduct, the presumption is that they do so only after full and careful consideration, which could hardly be improved upon even by the presence of "five of the best known medical men of the State of New York," who, if we may again quote the *Record's* correspondent, deliberated upon the subject for a year, and finally recommended the new Code. The mountain and the mouse does not begin to afford a parallel. Perhaps a closer one could be found in the history of certain other wise men of Gotham whose enterprise also came to grief. This statistical attempt to work upon the feelings of the delegates, and to imbue them with the idea, first, that the societies have no right to instruct them, and next, that if they have, it is unmanly to be instructed, may be characterized in one word by an expressive Americanism—Buncombe!

MEDICAL BRAVERY.

THE engagement at Kassassin, in the recent Anglo-Egyptian war, afforded two illustrations of the bravery of the army medical officers, which are worthy of being recorded, especially, as in the English army the surgeons are classed as "non-combatants," and are persistently denied their proper rank and recognition.

The only officer who was killed on this occasion was Surgeon-Major George Shaw, who, for the purpose of rendering assistance to a wounded man, voluntarily exposed himself to a scathing fire from the enemy. He was struck in the temple by a rifle-bullet, which penetrated and lodged in the brain, and lived only about three hours in an unconscious state. During the same engagement some movement of the troops left the first company of the Army Hospital Corps in an isolated and dangerous position. The medical officer in charge refused to permit the work of dressing the wounded, many of whom needed instant attention, to be intermitted for a moment, and declined to make any change of position until that duty had been attended to. His men, some forty in number, accordingly filled their haversacks with sand, so as to form temporary breast-works, took the rifles of the wounded who were unable to use them, and defended their charge until the arrival of the cavalry terminated the enemy's attack.

These facts are obtained not from the columns of the London daily press, nor from the illustrated weeklies, which are filled with descriptions and representations of the heroism of the Household Cavalry and the valor of the troops in general, but from modest notices in the correspondence of one or two medical journals. So far as we have seen, the lay press has had no word of commendation for the men who, relegated officially to an inferior social and military position, without the stimulus of the tremendous excitement of the officers who make or mar the game of war, and with little or no prospect of sharing the honors in the event of success, thus coolly and unflinchingly risk and lose their lives in the performance of their duty, not only upon the field of battle, but in confronting and combating disease in its manifold shapes. We have no wish to detract from those soldiers who have so well acquitted themselves during the recent campaign, but truly brave men can afford to give honor wherever and to whomsoever it is due. We should been glad to see some mention of the medical department in the despatches or some allusion to it in the encomiums upon the army with which the English press is now filled.

EXPLOSIVE COMBINATIONS.

ATTENTION has been repeatedly called to those extemporaneous combinations which form explosive mixtures. It may be useful to our readers to point out some of those most frequently prescribed. Amongst these are chlorate of potassa, permanganate of potassa, chromic acid, and glycerine.

A pomade composed of chloride of lime, sulphur, and other substances, will detonate when rubbed up in a mortar, and the whole mass may deflagrate.

When the hypophosphite of lime or soda is triturated alone, if pure, it may explode. Pills composed of the oxide of silver, are apt to decompose in a tremendous explosion. When the tincture of iodine is mixed with ammonia, the iodide of nitrogen—a violently explosive substance—is formed. If this is triturated in the presence of water, an explosion is almost certain to occur. A mixture of chlorate of potassa and tannin is apt to explode. The dentifrice containing chlorate of potash and catechu, has been known to explode in the mouth, when rubbed with a dry brush.

REVIEWS.

THE PHYSICIAN HIMSELF, AND WHAT HE SHOULD ADD TO THE STRICTLY SCIENTIFIC. By DR. D. W. CATHELL. Pp. 194.

Also 2d edition, pp. 208. Baltimore: Cushings & Bailey, 1882.

"THE proper study of mankind is man!" It was an ingenious idea of Dr. Cathell to put into writing the traditional and personal experiences of medical men, in respect of their business and technical relations to the world about them. There is nothing which men so much enjoy as the contemplation of themselves and their affairs—nothing which they read with so much zest as the account of their own doings and sayings, and the formal expression of their thoughts and experiences. Dr. Cathell has rendered them this great service; he presents to physicians who have succeeded the interesting details of their daily work, and he points out the road to success for the benefit of those about to start on a professional career.

There is much in "The Physician Himself" to commend—some things which should be condemned. Some of the methods set forth in the book have been unpleasantly exemplified in the means used to promote its sale. The circular containing extracts from private commendatory letters and reviews, sent forth under the signature of Dr. Cathell, to urge the sale of the work, is not a delicate proceeding, to use no harsher term. We must object to precepts, similar in their design to this example, which we find in the book. Thus, on page 11, it is stated—"It is proper and advisable to display your library, microscope, and other aids to precision; also your diploma, certificates of society membership, pictures of eminent professional friends, etc." Again on page 18, "If, at your office and elsewhere, you make use of instruments of precision—the stethoscope, ophthalmoscope, laryngoscope, the clinical thermometer, magnifying glass, microscope, urinary analysis, etc., they will not only assist you in diagnosis, etc., but will also aid you greatly in curing people by heightening their confidence in you, and enlisting their coöperation!" In such injunctions, the spirit of humbug is inculcated. The real use of the instruments of precision is the shadow, whilst the substance is the impression which such an appearance of scientific skill will make on the people. It is as much as to say to young practitioners, surround yourselves with much brass paraphernalia, to impress your clients, and, if you can, use them in diagnosis also, but above all, impress them. This is the spirit of the advice. Externals, a right appearance before the public, and the exhibition of mere paraphernalia, are the proper objects of a physician's attention. It is true here and there, right doing as well as correct conduct are urged on the physician, but the tendency of the instruction is to encourage pretension, rather than the possession of genuine merit. Whilst the book thus tends to encourage the cultivation of mere externals as a means of introduction to successful practice, it is by no means wanting in the expression of the noblest sentiments. The moral reflections, however, seem to be of the Joseph Surface character; intended rather to make an impression on the bystanders, than to affect the inner life and conduct.

Notwithstanding the unpleasant effect which the work makes on the whole for artificiality, for mechanical morality, and for mannerisms that are contrived to excite interest in their possessor merely, it is a distinctively useful and, in some respects, original work. No young medical man can fail to be benefited by its perusal, and no established practitioner can read it without obtaining useful hints for his guidance. Indeed, we believe, so perfect is the model of a young physician there drawn, that no man can form himself on it and fail to succeed. No experienced physician can rise from the perusal of the work, without a feeling of profound respect for the acuteness, the sagacity, and the knowledge of human nature possessed by its author. Although such a work encourages attention to mere externals, it must, on the whole, improve the professional status of those who conform to its instructions.

In the second edition which we have just received, some changes have been made in the expressions used, typographical errors have been eliminated, and the matter has been, in some places rearranged; but on the whole, the work stands as it originally appeared. Our final judgment, formed after the perusal of both editions, is, that "The Physician Himself" is a work of very great merit, barring the superficial and mechanical morality which it inculcates, that its author must be a shrewd and successful physician, who joins to great regard for external forms, a genuine love of his professional duties, and who is, at the same time, a shrewd observer of the weakness of mankind and skilful in his adaptation of the means necessary to utilize them for his own advancement. We can, however, conscientiously commend the work to our readers, with the conviction that no man can conform to its dicta, without having a measure of success. At the same time, we must insist that merit so conspicuous does not need the aid of *clap-trap* to obtain a proper recognition. No physician possessed of such capacity as shown by Dr. Cathell, could fail to rise in his profession; but our admiration of the ability unconsciously displayed in the book, is saddened by the reflection that such superior capacity had not found an adequate space for its proper development in the higher walks of professional activity.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 5, 1882.

FORDYCE BARKER, M.D., LL.D., PRESIDENT, IN THE CHAIR.

AFTER the reading of the minutes of the previous meeting and various reports, the scientific work of the evening was taken up. This consisted in a paper by DR. EDWARD G. JANEWAY, entitled

CASES ILLUSTRATING THE DIAGNOSIS AND LOCALIZATION OF BRAIN DISEASES, AND THEIR DIFFICULTIES.

By way of introduction, Dr. Janeway said he had first intended to confine himself to the subject of locali-

zation, but upon reference to what had already been done in this direction, he found that the cases bearing upon this point had been so thoroughly examined by Pitres, Grasset, Charcot, Ferrier, Deboyer, Nothnagel, and Exner, that he believed the time could be more advantageously occupied in another way.

He preferred, first, to speak of the difficulties of diagnosis between certain brain troubles and general diseases, and afterwards to present cases illustrating the subject of localization.

Dr. Janeway first took up the consideration of the difficulties presented by typhus fever in distinguishing it from cerebral diseases. He made special mention of cases coming under his observation which had been mistaken for meningitis and cerebritis.

The disease which was most likely to mislead between both of these, because of its implicating the brain, was what has only been recently recognized as coming in the category of special diseases, viz., acute endocarditis. He alluded to the fact that embolism in the brain, petechiæ on the surface, and fever would naturally mislead one in differentiating between typhus and brain diseases. The diagnosis would, in a given case, mainly depend on finding petechiæ on the surface, associated with paralysis or aphasia, indicative of embolism in the cerebral arteries. Naturally, in such a case, one would suspect ulcerative endocarditis. An illustrative case was adduced.

Typhoid fever was next taken up, which was less liable than typhus to be mistaken for brain disease, but still, once in a while, errors did occur. Embarrassment in diagnosis was mainly due to the symptoms of stiffness at the back of the neck and marked cerebral manifestations.

The reader of the paper then took up malarial fevers. He spoke of the fact that nervous diseases, with periodicity, were more apt to be mistaken for malarial trouble than the latter for nervous diseases, and instanced particularly examples of tumors with periodic headache, abscess, and pachymeningitis, secondary to bone disease, as ostitis media, injury to bones of head, etc. Congestive malarial troubles, with coma and convulsions, might very easily be mistaken for brain disease. He stated that in two cases he had found the lesions of cerebro-spinal meningitis together with pigmentation of the spleen and liver, and one case in which there was pigmentation in the vessels of the brain, showing that combinations might occur. The hypodermic syringe had been used in two cases for the purpose of determining whether satisfactory diagnostic results could be obtained by exploring the spleen. The spleens were swollen, and though a drop of blood was obtained, no evidences of pigmentation were found by its examination. Mention was made of cases in which the muscular pain was out of all proportion to the cutaneous hyperæsthesia, and in which an exploration of the pectoral muscles was made for trichina, in order to avoid error in diagnosis, or to determine a coincidence.

The difficulties in differential diagnosis presented by pleurisy and pneumonia were spoken of, particularly when occurring in children. Pneumonia was the more apt to be mistaken for brain trouble, especially when it began in the centre of the lung, or high up in the axilla, or posteriorly — places rarely examined in children. The symptoms of stiffness in the back of the neck and delirium present at the onset of the disease, were the principal causes of failure in diagnosis.

Bright's disease was liable to mislead in a good many ways, among which were the following: First, it had been laid down as a rule of diagnosis, that albumen and casts in the urine were good distinctive signs between coma of Bright's disease and hemorrhage in the brain. This statement, Dr. Janeway thought, should be taken with a great deal of reserve. In such cases he depended more upon the nature of Bright's disease; whether it was the small contracted type of kidney, with arterial changes and hypertrophy of the left ventricle. In its detection a paralysis, monoplegia, or hemiplegia was of a great deal more value than albumen and casts, because albumen was found in the urine in cases of hemorrhage. This point was illustrated by citing the case of a sixteen-year-old boy, who had as symptoms, headache, muscular soreness, hyperæsthesia of the skin, choked disk, fever, marked stiffness of the back of the neck, delirium, unconsciousness — symptoms which seemed to indicate involvement of the brain. The post-mortem showed small kidneys, hypertrophy of the left ventricle of the heart, and hemorrhage into the middle ventricles of the brain, due to rupture of a small miliary aneurism in the tænia semicircularis.

A case was next mentioned showing the liability to a severe mistake. The patient was a young man who had been examined by an oculist and had been told that he was suffering from retinitis due to Bright's disease. Over thirty examinations of urine failed to show the first symptoms of Bright's disease. The patient had brain symptoms and suffered from great muscular weakness. These lasted for some time, then improvement took place, and he finally recovered with blindness.

The author of the paper now passed to cases illustrative of localization.

The first example cited was that of a patient having aphasia and agraphia, but with no paralysis anywhere. The only history attainable from the man was by gestures, which were perfectly intelligible. He had received an injury to the left side of the head at a point just about opposite the position of the third frontal convolution, as a result of a premature blast.

A second example was that of a man who had been hit with a billiard cue in the left temporal region. The symptoms were aphasia, agraphia, and paralysis of the right side of the face and the right side of the tongue, but no arm or leg paralysis. The patient recovered.

Next came a case of tumor of the brain, situated for the most part in the upper portion of the two central convolutions and paracentral lobule, the symptoms being hemiplegia on the opposite side, involving the arm and leg.

A fourth example was that of a woman having a tumor pressing on the temporo-sphenoidal lobe. There was no paralysis. She died as the result of falling out of a window in a drunken brawl.

Other cases were omitted on account of multiple lesion and previous publication. One patient had pachymeningitis with lesion of the sixth and ninth nerves, and paralysis of the tongue and external rectus. The autopsy showed compression of the above nerves at their exit through the dura mater by the dura mater. This case was alluded to because the statement was found in some books that such a condition of things never occurred.

A case of paralysis of the lower part of the face, that part usually considered indicative of cerebral paralysis, was then alluded to, in which the autopsy showed a gliomatous tumor of the pons. Other paralyses were present in this case, which made the diagnosis possible during life.

Dr. Seguin opened the discussion by saying that the paper had been a very instructive one to him, especially the first part of it, which set forth the difficulties in the differential diagnosis of brain diseases from general diseases. He thought specialists were not generally well versed in this part of the subject. Certainly his own experience had not been much. He thought that in many cases where there was a coexistence of cerebral and renal degenerative symptoms, it was im-

possible to avoid a double diagnosis of miliary aneurism and kidney disease.

Prof. John C. Dalton being called upon by the Chair, remarked that he thought such papers as that of Dr. Janeway, that tell us something of the difficulties of this matter, are a little more what we want than the recitation of cases which point out the coincidence between the loss or disturbance of particular functions, and an injury or destruction of certain parts of the brain. Cases of the latter kind are satisfactory and entertaining in a great many ways, but when he recalled the great anticipations which were felt when the doctrine of cerebral localization was first inaugurated, and the remarkable corroborations that followed by experimental physiologists who found that by irritation of particular parts of the brain, particular paralyses followed, it seemed as if a new era began, and that all we had to do was to map out the brain, as the old phrenologist had mapped it out for another purpose. Though he thought these anticipations were just, new difficulties were beginning to present themselves. He presumed that every pathologist present knew of instances of lesions of particular parts which were not accompanied with the symptoms attributed to such lesions; and also where the symptoms were present, but were not accompanied by destruction of those particular regions of the brain.

Now, he did not imagine there was any contradiction between physiology and pathology; there are only difficulties. And at the present stage these difficult cases and apparently contradictory cases are the ones we want to discuss. We are all familiar with Hitzig's cases, in which, by the application of an electrode to particular parts, he always produced definite muscular movements upon the opposite side of the body, and afterwards, when he cut out these parts of the brain, paralysis followed. These observations were supported by pathological evidence; but after a while we found that it was not all clear.

The first difficulty was that extraordinary one disclosed by experimentation, in which it was found, after cutting out the motor tract and producing muscular paralysis upon the opposite side of the body, that it was not a permanent paralysis. The animal was hemiplegic the next morning after the operation, but in two weeks he had recovered the lost power. Now, how can we explain this? A good many different explanations have been offered. First of all, we may suppose that other parts of the brain take up the functions previously performed by that part of the cortex which has been removed. This explanation, Prof. Dalton did not think was satisfactory. It was too clumsy. According to this theory, after cutting away portions of the brain controlling the movements of certain parts, other cells in the neighborhood, that have never before been called upon to act in the capacity of those removed, gradually take up their function, and after a time perform it regularly.

Regarding the recovery of sensibility, it was stated that, after the removal of the angular convolution, the animal was at first blind, but afterward recovered sight. One of the most ingenious explanations of this fact was that of Monk, who says that, after cutting out the angular convolution the animal is not blind; that he sees as well as ever, but does not know what he sees. The animal is soul blind, as Monk terms it. According to this author, if an adult man who had always been blind could suddenly be enabled to see his best friend, he would not know him. Monk supposes that the visual image is upon the eye, but to know what that visual image means is another thing. Experience gradually teaches him what this image is. According to Monk, this is what happens when the angular convolution is cut away. The animal sees as well as before the operation, but does not know what he sees. Monk thinks that in the neighborhood there are other cells capable of doing the work of those which have been removed, but have never been called upon to do so. These cells have got to go through the same process as the others did from the beginning, just as if the animal was born again. This was a very ingenious theory, but he thought all would agree that it was rather deep water. Take a dog and do such an operation upon the right side, when you hold a piece of meat before the left eye the dog does not bite at it. He appears not to see it. Prof. Dalton thought that in an animal naturally as curious as a dog, he would make some attempt to examine the piece of meat if he saw it, even if he did not know what it was.

Prof. Dalton discussed the paper still further. He was followed by Drs. W. R. Birdsall and Hermann Knapp, and the discussion was closed by Dr. Janeway.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, October 4, 1882.

W. S. W. Ruschenberger, M.D., President, in the Chair.

Dr. H. Augustus Wilson reported a case of

TRANSPOSITION OF THE VISCERA,

the comparatively rare occurrence of which, he considered a sufficient excuse for occupying the time of the College. He regretted that he was not able to offer a more complete record of the case; but a careful dissection was impossible without taking an unwarranted risk of septic poisoning, as the abdominal cavity was filled with fetid pus.

Frank M., aged 21, died at the Presbyterian Hospital of purulent peritonitis. I shall ignore in this paper the pathological conditions found at the post-mortem examination, inasmuch as they have no bearing upon the subject under consideration.

The patient had been aware since boyhood that his heart was misplaced, and upon one occasion a physician told him that that was the reason he was left-handed. He had never been very strong; but it does not appear that he ever had any serious affection the cause of which could be assigned to his misplaced viscera.

In 1878, when he first came to the hospital, Dr. James Markoe, under whose care he was, noticed that not only was his heart perceptible in the fifth interspace of the right side, but also by percussion ascertained that this organ occupied the same relative position upon the right side that it should upon the left. He found, also, that the liver and spleen were transposed, but no further changes seem to have been noticed.

At the time Dr. Wilson made the post-mortem examination, he found externally nothing to indicate the great changes in the positions of the internal organs, except that the right testicle was suspended at a lower level than the left. When he had opened the thorax and abdomen, and laid bare the organs contained therein, the appearance to him was as though he was looking at the body reflected in a mirror. It was like the photographer's negative.

The *heart* first attracted his attention, and was found to be normal in every respect, but occupying, as already noted, a position upon the right side. It looked as though it had been pushed over to its present position without changing materially its relations with other organs. The right side was the pulmonary side and the left the systemic side, and in this respect the organ performed its functions in a normal manner. The aorta, starting from the left ventricle, followed a somewhat irregular course, crossing over the right bronchus

and going from there to the right side of the vertebral column, along which it descended upon the right side. The branches given off from the arch of the aorta were the two coronary arteries unchanged, the innominate going up the left side of the neck and giving off the left common carotid and left subclavian, while coming from the right portion of the arch were the right common carotid and right subclavian.

The *lungs* were reversed. The right lung was found to be smaller to allow space for the heart. It had two lobes. The left lung corresponded in appearace to what is commonly the right lung, was shorter than its fellow, being pressed up by the liver, was broader, and had three lobes.

In the *abdominal cavity* the liver occupied the left hypochondriac and partly the epigastric regions, the large lobe to the left and the smaller ones to the right, the gall-bladder and everything else similarly changed.

The *stomach and intestines* were transposed. The stomach was partly in the right hypochondrium and partly in the epigastric region. The pylorus extended forward and downward toward the middle of the abdomen. The spleen was on the right side, and attached to the greater curvature of the stomach.

The *cæcum* was situated in the left iliac fossa, and the colon ascended on the left side and crossed from left to right side of the abdomen. From there it descended and terminated in the sigmoid flexure upon the right side.

As already stated, the man was naturally left-handed. Hyrtl was the first to advance the theory that we are normally right-handed because of the more direct flow of blood to the brain upon the left side. And this theory would be substantiated if all cases where the heart and great vessels were transposed were left-handed; but such is not the case. A few years ago a theory was advanced that right-handedness depended upon natural selection. But the easiest explanation is that from earliest infancy we are instructed to use the right hand always in preference to the left. When a person with transposition of the viscera is left-handed we may call it a coincidence. In any other view, it would be extremely difficult to account for the far larger number of persons whose organs are arranged normally and yet are left-handed. In the cases that are noted in the journals Dr. Wilson has not been able to find statistics enough to draw any inferences, for, when this condition is noted, right-handedness appears to be as frequently met with as left-handedness in cases where the viscera are transposed.

Peacock, in his monograph on Malformations of the Heart (T. Peacock, *Malformations of the Heart*, 2d edit., 1866), says that the most common of all the internal displacements is that in which the heart is placed upon the right side in a position corresponding to that which it should occupy upon the left, and that this displacement is almost always associated with more or less complete transposition of other viscera. Occasionally the heart is transposed, while the other organs are unchanged (Sur l'Ectopie de l'appareil de la circulation et particulièrement sur celle du cœur.—*Rep. Gen. d'Anat. et de Phys. Pathol.*, t. ii., 1826, p. 1).

Among the earliest recorded cases are those of Servius and Schenkius in Rome in 1643 (Thomas Bartholinus, *Hist. Anat. Cent.*, ii. 29. Amst., 1654), and one by Riolan in 1652 (Allen Thompson, *Glasgow Med. Journ.*, vol. i., 1853, p. 220).

The first case recorded in which the malformation was noticed during life appears to be that described by Morand (Méry, *Memoirs of Academy of Paris for* 1866) in 1666. This case seems to have attracted considerable attention at the time, and was said to have suggested to Molière the transposition of the heart and liver which he puts into the mouth of Sganarelle in his play of *Mèdecin Malgré lui*, published about the time this case was reported.

In cases of more or less complete transposition, the arteries, if they do not retain their natural positions, may be displaced in almost all conceivable ways.

Dr. Gamage (*N. Eng. Journ. Med. and Surg.*, iv., 1815, p. 244) reported a case in which the aorta arose from the right ventricle and the pulmonary arteries from the left ventricle. Mr. Abernethy (*Philosophic Trans.*, 1793, p. 59) saw a child, ten months old, where the portal veins terminated in the vena cava, the liver being supplied from an unusually large hepatic artery. Mr. Douglas Fox (*Lond. Med. and Phys. Journ.*, vol. ii., 1824, p. 474) reported the result of a post-mortem examination in a case where the heart was transposed, and the aorta, after crossing the right bronchus, passed behind the lower end of the trachea, over the vertebral column, and pursued its usual course from there down the left of the spine.

For a very complete account of a case similar to the one now reported, and for an exhaustive study of the histology of such malformations, the reader is referred to Dr. Allen Thompson's paper in the *Glasgow Medical Journal.*

As regards the practical application of this case, it would be well to bear such abnormality in mind as a possible condition in cases brought to a physician's notice in an unconscious condition. It will readily be seen that considerable difficulty might arise is forming a diagnosis. In surgical operations upon the thorax or abdomen it would prove a serious complication, as, for instance, in colotomy, paracentesis abdominis or pericardii.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, October 5, 1882.

Vice-President, T. M. Drysdale, M.D., in the Chair.

Dr. W. Goodell exhibited the specimens and gave the histories of the following cases:

NEPHRECTOMY FOR RENAL CYST.

Mrs. C. M. G., aged 52, and married for twenty-eight years, has had three children, the youngest of whom is twenty-five years old. For many years she has had pain in the left renal region, and sharp attacks of gravel. This pain was so increased by jolting that she was unable to drive even in a carriage with double springs; but she has never experienced the excruciating pain of a stone passing down the ureter; of this she is positive. Four years ago she began to enlarge, but she did not suspect a tumor. As her health grew worse, she came on from the west and in last July consulted Dr. J. F. Bird about it. He recognized a cyst and called Dr. Goodell in to see her. Despite her age, her catamenia were not only regular, but too free. Dr. G. expected to find a fibroid, but the womb measured only three inches, and it was also very movable and wholly independent of a large cyst, which filled up the abdomen like an eight months' fœtus. The lower edge of the cyst could be felt per vaginam lying in front of the womb. Percussion elicited all the phenomena peculiar to ovarian cysts. Coronal resonance was marked. There was dulness in front showing the complete absence of intestines from that region—their presence being alleged to be one of the most trustworthy signs of a renal cyst. As the lady stated positively that there were changes in the size of the tumor, Dr. G. was disposed to regard it more as a cyst of the broad ligament than one of the ovary.

The operation was performed on September 16th. As soon as the cyst was reached, it was ascertained

that it was not ovarian or parovarian; but it was fully fifteen minutes before its true character was discovered. The cyst was covered with a very vascular but loose layer of peritoneum, to which in the lateral regions the intestines were attached, and in which they seemed to be imbedded. This was cut open and stripped off from the whole cyst, which now revealed on its lower border an expanded and healthy portion of the left kidney. To confirm the diagnosis, a small calculus was found within the cyst, and a much distended ureter discovered. The pedicle formed by this process of enucleation consisted, below the ligature with which it was secured, of the renal bloodvessels enveloped in connective tissue. But to get a button of tissue sufficient to prevent all slipping of the ligature, the operator was obliged to leave on its distal side a small portion of the cyst, but none of healthy kidney.

It was evidently a case of hydronephrosis, but the uterine sound was passed into the ureter and no obstacle was met with; it probably did not reach the bladder. This ureter was brought out at the lower angle of the wound, and secured there by one of the sutures. Nineteen days have now elapsed since the operation, and the lady has done uniformly well, and sat up to-day for the first time.

HYDATID OF MORGAGNI.

The lady from whom this specimen was taken was operated on by Dr. Goodell on September 4th, and promptly recovered. The cyst was of the left ovary, but the right one being also diseased, was removed. Attached to one of the fimbriæ of the oviduct is a very beautiful specimen of a hydatid of Morgagni. This little body, so often found attached to the ovary, was of interest because those small cysts of the abdomen which, after attaining a small size, would burst and usually refill, were, in Dr. Goodell's opinion, cysts of this hydatid.

CYST OF THE PAROVARIUM.

This specimen was taken from a young woman, aged 22. The tumor was first noticed eight years ago. Dr. Goodell aspirated her before the clinic at the University of Pennsylvania, in October, 1880, and November, 1881. On each occasion a perfectly limpid fluid was removed, and the diagnosis was consequently made of cyst of the broad ligament. As the cyst again refilled, she demanded its removal, and she was accordingly operated on before a ward-class on September 19th. The cyst sprang from the left side, and had the usual delicate and vascular wall. Spread out on its lower border, is the corresponding ovary, which could be very readily overlooked by a careless observer. The right ovary, being much enlarged and filled with small cysts, was also extirpated. When first removed, it contained fine corpus luteum, but the alcohol had dissolved this out, leaving merely the deep pit which held it. The operation was performed just two weeks after her last monthly period. The usual metrostaxis occurred on the fifth day after the operation. The patient is convalescing well.

PAPILLOMATOUS UTERINE GROWTHS.

Dr. W. H. Parish exhibited two vials, containing apparently similar growths removed from the endometri of two patients, one of which from concurrent symptoms, he considered benign, but the other he thought malignant. In the first case, menstruation had ceased for a year, after which it had returned and became constant and profuse. She had suffered from prolapse following labor, twelve or fifteen years ago. Dr. Parish dilated the uterus with two sets of spongetents, after which he introduced his finger and found a number of elevations as large as a pea; some of these he removed by means of curettes, and others by seizing them by forceps and twisting them off. Some metritis followed the operation, but no blood has been lost in the last four weeks.

The second specimen was removed from a carcinomatous uterus, by means of the curette and the ecraseur.

Dr. Goodell remarked that he did not allow the revelations of the microscope to govern him in his treatment of bleeding uteri. He had under his care, recently, three such cases, all of which were reported by noted microscopists to be carcinomatous, but one of these cases was entirely cured by local measures.

One case of lacerated cervix with ectropium and free hemorhage, which was pronounced undoubtedly cancerous by a microscopist of high repute, was relieved by scraping and cured by operation. Another case pronounced cylindrical epithelioma, by the same gentleman, recovered after operation.

A patient of Dr. C., while in this city, was referred to me for examination as to the cause of persistent menorrhagia. Ether was given, and a careful and thorough examination made, and the round and sharp curettes were used; but Dr. Goodell could find no cause except a few minute granulations. This class of cases is usually found among stout or plethoric women, and the hemorrhage will recur after any treatment, although temporary benefit can be obtained. When the curette is passed over the walls of the uterus, it exercises a tonic effect, and a contraction results checking the hemorrhage.

Dr. A. H. Smith has had under treatment a number of cases of marked anteflexion, generally in young girls, in whom dysmenorrhœa is followed by very profuse menorrhagia, which proves very exhausting, and will not yield to internal remedies. Examination shows no recognizable cause, but a stem pessary will secure entire relief in a few months. He has seen six such cases within the last three years. He has had under treatment cases resembling epithelioma of the uterus, in which the introduction of a large sponge tent has resulted in complete cure, and secured the cessation of profuse and hitherto uncontrollable hemorrhage.

Dr. Parish: Some cases of incurable hemorrhage are due to inflammatory adhesions of the uterus to surrounding tissues, which will disturb the circulation and modify nerve action. He considers the smooth-wire curette a valable aid in diagnosticating the condition of the endometrium, as its passage over the uterine wall will distinguish between healthy and unhealthy uterine tissue. A patient suffering from uterine hemorrhage for three weeks following a possible miscarriage at three months, was cured by one application of the smooth curette, which brought away some granular matter.

CORRESPONDENCE.

MAGGOTS IN THE NARES.

To the Editor of The Medical News.

Dear Sir: It fell to my lot to see a case of no little rarity, and of which I desire to make a brief report.

Mr. K., of Alexander, Ill., has been for some years afflicted with a catarrh which has never received any attention and which has become an ozœna. He is an industrious Irish farmer against whom the main complaint that can be made is that he "takes an occasional drop at a dance or the like, for the sake of his constitution."

After the last dance, which continued until morning, under the stupefying effects of the alcohol, he lay in the grass until near noon. A considerate blue-bottle, which wished to deposit her eggs in a safe place, chose

the fetid secretions of the man's nose, and effectually discharged the contents of her oviduct. The environment being favorable to their development, in due time sixty-five healthy *maggots* began to inspect their new and novel quarters, and seem to have passed a favorable opinion on the nares and post-pharyngeal space, for they could not be induced to leave it through kind treatment or harsh, and, in spite of irrigation, they grew and prospered, except a few, less skilful than the rest, which, falling from the turbinated heights, lost foothold, and, once outside the nostril, found it impossible to return, and met with a summary destruction. A large number survived a week and eluded the attempts of the vigilance committee (of two neighboring physicians).

The case began to assume dangerous symptoms—erysipelas of the face was an unwelcome visitor. Between maggots and œdema of the nose and soft palate no air could be made to pass, and the mouth was the only respiratory avenue. This is the condition in which I found him when called in consultation on the morning of Sept. 22d, eight days after the dance—and to me no description could be an exaggeration of the appearance of the nauseating spectacle seen under the condensed illumination of the rhinoscope, the nostril being distended by a speculum.

They resisted the action of water completely, and it was found necessary to stand guard with forceps and catch each one until the last of the family were in captivity. Considerable surfaces of bone were found denuded, but so faithful had the operations of these little workers been that no particle of odor was to be distinguished.

Respectfully,

A. E. PRINCE.

JACKSONVILLE, ILL., Sept. 22, 1882.

NEWS ITEMS.

THE PROGRESS OF YELLOW FEVER.—The news from *Pensacola* during the past week is exceedingly meagre, consisting only of the figures indicating the number of cases taken sick daily, and the deaths which have occurred. They are as follows, reported up to and including October 2d, 875 cases and 87 deaths:

Dates.	Cases.	Deaths.
October 3d,	55	5
" 4th,	56	3
" 5th,	54	4
" 6th,	71	4
" 7th,	64	2
" 8th,	77	4
" 9th,	48	5
Total to date,	1300	114

Brownsville, Texas.—But two despatches have been received from Brownsville by the Surgeon-General of the Marine-Hospital Service during the past week, the yellow fever having almost disappeared in that section. Only twelve cases and two deaths are reported up to and including the 7th of October, 1882, making a total, during the epidemic, of 1912 cases and 109 deaths.

The disease is now limited to a few mild cases inside the Arroyo Cordon, but is reported to continue with great severity in the Mexican towns and ranches bordering on the Rio Grande river; the infected districts are prevented from spreading the disease in Texas by an efficient cordon, extending from Brownsville to Laredo.

Pensacola, Fla.—Official reports, by mail, from Pensacola, have been received by the Surgeon-General of the Marine-Hospital Service to include the 4th of October, 1882, as follows:

Dates.	Cases.	Deaths.
September 30th,	44	3
October 1st,	45	4
" 2d,	45	5
" 3d,	55	5
" 4th,	55	5
Total,	244	22
Previously reported,	725	76
Total during epidemic,	969	98

The origin of the epidemic is involved in obscurity. Many cases were rumored before the presence of the disease was announced by the Board of Health on August 29th. That the disease on board the Galeta, which was sent to sea on the tenth of that month, was yellow fever appears to be conceded, but the history of that vessel, showing a period of forty days of health between her departure from an infected port and her fever while at Pensacola would indicate that she became infected there rather than that she introduced the poison. There are many who believe that fever prevailed in the port and among the shipping before the arrival of the Galeta. The city medical men have had their time fully occupied in attending to their patients. No doubt when all is over the local authorities will institute an investigation into the origin and spread of the disease, but in a case of this kind the delay of a few weeks or even days increases the difficulties in the path of the investigator. Some who could have given important information die, others sail from the port and their testimony is lost. We understand that Major G. T. Walthall, of Mobile, Ala., is engaged on behalf of the National Board of Health in prosecuting an inquiry into the circumstances attending the introduction of the disease. Major Walthall is an earnest worker in sanitary matters, a member of the American Public Health Association, and well fitted by education and experience to take up this line of inquiry. It is probable that some light will soon be thrown on this matter.

CHOLERA.—In Yokohoma and vicinity there occurred during the first twelve days of September, 283 new cases of cholera and 223 deaths, making a total since the epidemic began (in last April) of 3,509 cases and 2,223 deaths. All the new cases are among the native population.

Cholera has prevailed, also, for months past, in many of the East Indian Islands, and in some of the ports of British India. From Bombay, at the end of August, it was brought to the shores of the Red Sea by a vessel, the "Hesperia," which was sent to quarantine at Camaran, where the Imperial Ottoman Sanitary Administration has a large establishment, with hospitals for the sick, and quarters for those who are under observation. Strict orders have been issued to enforce the quarantine laws against all vessels from the East. It is probable that if cholera were introduced into Egypt in the present disorganized condition of that country, the disease would spread rapidly, and be a source of danger not only to Europe, but to this country. The shores of the Red Sea are far from us, except by telegraph; yet at present the manner in which the quarantine is there enforced has a great and practical interest for the whole of this country. Early in September, quarantine was established in Malta against vessels coming from the East. Perhaps we may soon have to learn by a bitter experience how we have erred in leaving our ports unguarded against the intrusion of this Eastern pestilence.

SMALLPOX IN ILLINOIS.—The Quarterly Report of the Secretary of the Illinois State Board of Health

states that at the date of the last report, June 30th, there had been a total of 190 cities, towns, and villages in which smallpox had appeared since Nov. 1, 1881, of which number twenty-two had occurred in the preceding quarter, and there were still cases remaining at nine points. Since then there have been cases at Paxton, in Ford County, near Prairie du Rocher, in Randolph County, and on an island in the Mississippi river opposite Harrisonville, Monroe County. The disease has also been reintroduced into Jersey County through a suit of second-hand clothes bought in St. Louis.

The Paxton cases originated with a stock-dealer and importer of horses, who contracted the disease en route from France in the stock boat Friga, on board of which was a mild case of varioloid. The boat, it is said, escaped inspection at quarantine in New York, and as Hefner, the importer, did not travel on an immigrant train in this country, he also escaped the inspection service. The disease was confined to Hefner's house, but his wife, son, and daughter were attacked, and the son died.

The Monroe and Randolph County cases are believed to have originated from an infected mattress, supposed to have been thrown into the river and washed ashore on Staton's Island. Owing to failure of prompt recognition of the disease, a hired man who had been exposed, was allowed to go to Randolph County, near Prairie du Rocher, where together with himself, there have been in all nine cases with five deaths. The disease seems to have been of a very mild type on Staton's Island, no deaths occurring out of the ten cases.

It is worth while calling attention, in this connection, to the markedly different results obtained in counties under township organization and in those where, in the absence of Town Boards, the County Commissioners are charged with the duties of health authorities. While of course, the most efficient work is done and the disease is most promptly "stamped out" in localities where there are regularly organized Boards of Health, it is yet true that, as a rule, the Town Boards have been only less efficient, and the disease has been generally promptly mastered by their efforts, On the other hand, in counties where the County Commissioners alone have charge, there has, as a rule, been delay in action or neglect, resulting in a spread of the contagion beyond the first cases or families and an undue prolongation of the disease. In Alexander County, for example, the first cases near Commercial Point occurred in the latter part of April and the contagion was not finally eradicated until the 20th of July. The recent outbreak and spread in Monroe and Randolph counties are, to some extent, due to similar causes.

At this date there is one remaining case near Prairie du Rocher, and three in the hospital in Chicago. Aside from these there are no new cases known to exist in the State at present.

The decline of the epidemic in Chicago since the inauguration of the Immigrant-Inspection Service is clearly shown in the following table:

MONTH.	Cases Reported.	Deaths.	REMARKS.
April	321	95	Inspection began June 1.
May	281	65	Average decline before inspection, 12 per cent.
June	154	29	
July	44	11	Average decline since inspection, 78 per cent.
August	24	5	
September	7	3	

The New York Code.—The Broome, Franklin, and the Columbia are the latest of the New York County Medical Societies to repudiate the new code, and to instruct their delegates accordingly.

By order of the Medical Society of the County of Kings, the discussion of the New York Code will take place at the stated meeting to be held on Tuesday, October 17th.

The Franklin County (N. Y.) Medical Society at its quarterly meeting recently held, adopted the following resolutions:

Resolved, That the Franklin County Medical Society deplore the act of the State Medical Society abolishing the wise Code of Medical Ethics by which it had for so many years been governed, and substituting therefor an unwise and senseless code—a code which sacrifices the self-respect and honor of members of a once honorable profession, in order to pander to the self-interest of a few specialists in New York and other large cities of the State.

Resolved, That our delegate to the State Society be instructed, should opportunity present, to vote for the repeal of the present code, and for the readoption and restoration of the old code.

Resignation of Dr. Oliver Wendell Holmes.—It is rumored that Dr. Oliver Wendell Holmes is about to resign his Professorship of Anatomy in the Harvard Medical School.

Journal Changes.—The *Louisville Medical News* announces that hereafter it will be under the management of Drs. Lunsford P. Yandell and L. S. McMurtry, of Louisville. Both of these gentlemen are widely and favorably known to the profession, and possess the talent and culture to worthily fill the editorial chair of the lamented Cowling.

The *Sanitarian* announces that on the first of next year it will appear as a weekly journal, with thirty-two double-column quarto pages. It will continue under the editorial management of Dr. A. N. Bell.

Medical Education in the United States.—The Annual Report of the Commissioner of Education, for the year 1880, has just been issued by the Government, and from it we learn that during the last decade the number of medical institutions, and of medical students in the United States has about doubled, and that the number of instructors has nearly trebled.

The number of "regular" schools is put down at 72, with 1,131 instructors, and 9,876 students. The "Eclectic" schools number 6, with 65 instructors, and 833 students. The "Homœopathic" schools number 12, with 188 instructors, and 1,220 students.

Pathological Prize.—The Pathological Society of Philadelphia, will award the sum of twenty-five dollars, or a gold medal, for the best pathological report, with or without specimens, read before April 1, 1883, by any member of the Society, who at the time of presentation, holds the position of hospital resident.

Personal.—Dr. Morell Mackenzie, of London, has been making a six weeks' tour in this country. His travels have extended across the Continent, and he has received marked attention.

Dr. J. J. Woodward, of the U. S. Army, has returned from Europe, and the profession will regret to learn that his health has not been improved by his trip.

American Public Health Association.—The tenth annual meeting of the American Public Health Association will be held in Indianapolis, under the Presidency of Prof. R. C. Kedzie, on October 17 to 20.

A SPECIAL SESSION OF THE SANITARY COUNCIL OF THE MISSISSIPPI VALLEY will be held during the meeting of the American Public Health Association at Indianapolis, Ind., October 17–20, at such time as may be found most convenient, with reference to the programme of the Association. Of this due notice will be given by announcement, at an early hour after the Association has convened. Questions of importance, affecting the sanitary interests of the Mississippi Valley, will be considered.

SUCCESSOR TO PROF. FRIEDREICH.—PROF. ERB, of Leipzig, is mentioned as the successor of the late Prof. Friedreich, of Heidelberg.

OBITUARY RECORD.—We have just learned from our foreign exchanges of the sudden death of DR. HILLAIRET, one of the most distinguished practitioners in Paris. He died of angina pectoris, in his consultation room; he was 67 years of age, and was engaged in the publication of a treatise on "Diseases of the Skin," of which the first fasciculus appeared last year.

A GERMAN AMBULANCE ASSOCIATION.—A society similar to the English Ambulance Association has been formed in Berlin. It was founded at the suggestion of Prof. Esmarch, and its purpose is to render aid to the wounded in cases of accident as rapidly as possible. The Empress has accepted the position of patroness.

ALUM AS A FIRE EXTINGUISHER.—M. DUMAS, the eminent chemist, has been trying some experiments with a concentrated solution of alum, the results of which he lately communicated to the Academy of Sciences. He proposes this substance as an extinguisher of fires, as it renders non-inflammable all substances with which it is placed in contact. He recommends its use for putting out fires in streets, etc. One of the members present observed that in theory the idea was plausible enough, but that its execution would be simply impracticable, owing to the enormous quantities of alum that would be required to meet the demand. It was, however, suggested that several articles in theatres, private houses, shops, etc., might be rendered non-inflammable by having them saturated in a solution of alum, and thus reduce to a minimum the risk of spreading fires.—*Lancet*, Sept. 16, 1882.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending September 30, 1882, indicate that bronchitis has considerably increased, that puerperal fever, scarlet fever, whooping-cough, and membranous croup have increased, and that dysentery has decreased in area of prevalence.

Compared with the average of reports for the months of September, in the preceding five years, all diseases except puerperal fever, and cerebro-spinal meningitis, were less widely prevalent during September, 1882, than has been usual during September; and only bronchitis and puerperal fever were noticeably more widely prevalent during the week ending September 30, 1882, than has been usual.

Including reports by regular observers and by others, diphtheria was reported present during the week ending September 30, and since at 23 places, scarlet fever at 10 places, and measles at 4 places. A case of smallpox was reported at Grand Rapids, October 3.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 2 TO OCTOBER 9, 1882.

WOODWARD, J. J., *Major and Surgeon.*—Leave of absence extended four months on account of sickness.—*S. O. 233, A. G. O., October* 6, 1882.

WILLIAMS, JOHN W., *Major and Surgeon.*—Now on leave of absence, to proceed to San Francisco, Cal., and report in person to the Commanding General Division of the Pacific, for duty in Department of the Columbia.—*S. O. 228, A. G. O., September* 30, 1882.

WATERS, WM. E., *Major and Surgeon.*—To report in person to the Commanding General Department of the East, for assignment to duty.—*S. O. 228, A. G. O., September* 30, 1882.

IRWIN, B. J. D., *Major and Surgeon.*—On being relieved as attending surgeon headquarters Military Division of the Missouri, to proceed to Whipple Barracks, Arizona, and report in person for duty as Medical Director, headquarters Department of Arizona.—*S. O. 228, A. G. O., September* 30, 1882.

FORWOOD, WM. H., *Major and Surgeon.*—Relieved from duty in Department of the Platte, and to report in person to the Commanding General, Military Division of the Missouri, for duty as attending surgeon at those headquarters.—*S. O. 228, A. G. O., September* 30, 1882.

SMITH, ANDREW K., *Major and Surgeon.*—Relieved from duty in Department of Arizona, and, on expiration of present sick leave, to report by letter to the Surgeon General.—*S. O. 228, A. G. O., September* 30, 1882.

EWEN, CLARENCE, *Assistant Surgeon.*—Relieved from duty at Fort Elliott, Texas, to proceed to Fort Gibson, Indian Territory, and report to the Commanding Officer at that post for duty.—*S. O. 198, Department of the Missouri, October* 3, 1882.

BURTON, H. G., *Captain and Assistant Surgeon.*—Granted leave of absence for four months.—*S. O. 229, October* 2, 1882.

PURRILLE, HENRY S., *Captain and Assistant Surgeon.*—To be relieved from duty in Department of the East, and to report in person to the Commanding General, Department of the Platte, for assignment to duty.—*S. O. 228, A. G. O., September* 30, 1882.

MOSELEY, E. B., *Captain and Assistant Surgeon.*—To report in person to the Commanding General, Department of the East, for assignment to duty.—*S. O. 282, A. G. O., September* 30, 1882.

SKINNER, JOHN O., *Captain and Assistant Surgeon.*—To be relieved from duty in Department of Arizona, and to report in person to the Surgeon General.—*S. O. 228, A. G. O., September* 30, 1882.

LORING, LEONARD Y., *Captain and Assistant Surgeon.*—To be relieved from duty in the Department of the Missouri, and to report in person to the Commanding General, Department of the East, for assignment to duty.—*S. O. 228, A. G. O., September* 30, 1882.

MCCREERY, GEORGE, *Assistant Surgeon.*—To report in person to the Superintendent Mounted Recruiting Service, Jefferson Barracks, Missouri, to conduct a detachment of recruits to the Department of Arizona. On completion of that duty, to rejoin his station in that Department.—*S. O. 233, A. G. O., October* 6, 1882.

WAKEMAN, W. J., *First Lieutenant and Assistant Surgeon.*—Upon being relieved at Fort Douglas, Utah Territory, to proceed to Fort Fred Steele, Wyoming Territory, and report to the Commanding Officer at that post for duty, in the absence of Assistant Surgeon D. G. Caldwell, on leave of absence.—*S. O. 106, Department of the Plate, Oct.* 6, 1882.

BIRMINGHAM, H. P., *Assistant Surgeon.*—To proceed to Fort Bayard, New Mexico, when relieved at Fort Elliott, Texas, and report to the Commanding Officer for duty.—*S. O. 198, Department of the Missouri, October* 3, 1882.

WATERS, W. E., *Surgeon.*—Ordered to Madison Barracks, New York, for duty as Post Surgeon.—*S. O. 178, Department of the East, October* 5, 1882.

OWEN, WM. O., JR.—*First Lieutenant and Assistant Surgeon.*—To proceed to Fort Townsend, Wyoming Territory, and report to the Commanding Officer for temporary duty at that post.—*S. O. 138, Department Columbia, September* 22, 1882.

CALDWELL, D. G., *Captain and Assistant Surgeon.*—Granted leave of absence for one month, with permission to apply for an extension of three months.—*S. O. 105, Department of the Platte, October* 3, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLI. SATURDAY, OCTOBER 21, 1882. NO. 17.

ORIGINAL LECTURES.

DIPHTHERIA.

A Lecture delivered by Invitation at the Bellevue Hospital Medical College, New York, Oct. 12, 1882.

BY MORELL MACKENZIE, M.D. LOND., M.R.C.P.

SENIOR PHYSICIAN TO THE HOSPITAL FOR DISEASES OF THE CHEST AND THROAT, LECTURER ON DISEASES OF THE THROAT AT THE LONDON HOSPITAL MEDICAL COLLEGE, ETC.

GENTLEMEN: When I found that Dr. Bosworth had been kind enough to invite me to lecture to you, I need not say I felt very grateful to him, but I hesitated to accept the great honor, on the ground, first of all, because I object to all lectures; and, secondly, on account of the vastness and difficulty of the subject he had chosen for me to speak upon.

I think the days for teaching by means of lectures are passed. Lectures did very well in the middle ages, when medical books were more scarce than they are now, and perhaps are still very good for clinical purposes. They may also be useful where it is desired to show the use of instruments, or demonstrate special modes of investigation, as, for instance, in experimental physiology. One reason why they are still so largely in vogue is on account of lecturing being a traditional mode of teaching. Then, too, it is supposed to be a means of reaching that class of students who will not read or study from books, but I believe that class does not exist in America, for my observations have led me to the conclusion that American medical students are industrious and never shirk hard work. Therefore, I feel that the days for didactic lecturing in this country are altogether ended.

The subject chosen for me to speak upon was not selected by myself, and I feel that it is impossible to do anything like justice to it in a comparatively few minutes. However, I will not take up your time with any further excuses, but will proceed at once to make running commentaries upon the disease in question.

I will not trouble you with an historical account of diphtheria, beginning with Hippocrates and running down to the present time, as is so customary for medical authors when treating of various diseases. The ancient medical writers had such a convenient vagueness of expression that now when an author is writing upon a given disease, even though it be one so recently recognized as pernicious anæmia, he has only to consult Hippocrates to find a description which he can easily apply to it as proof of the disease having existed from the earliest times. I will simply tell you, and that, perhaps, will be of interest to you, that Dr. Samuel Bard, an American physician, was the first to write an accurate and comprehensive description of diphtheria. Previous to this, as some of you may know, a very accurate description of croup was written by Dr. Hume and several other English writers, but all these took a local view of the disease. They did not understand the nature and various manifestations of the disease. It was Dr. Samuel Bard who first accurately described it and pointed out that what were supposed to be different diseases were in part only different manifestations of one affection, diphtheria.

Nor will I endeavor to give you a minute definition of the disease, for it is very difficult to give a good definition of anything. If you attempt to define life, man, etc., nothing is more difficult, and the same is true of diphtheria. If you try to give a concise definition, you are sure to omit something of importance. I myself tried to give a comprehensive definition of diphtheria in a book which I wrote a few years since, and thought I had succeeded pretty well. But my reviewers said it was a description, not a definition. Since then I have made no further attempt in this direction.

The disease in question is sometimes considered to be a specific inflammatory condition of the mucous membrane of the throat; being produced by a definite cause. It generally occurs epidemically, though sometimes endemically. It is characterized by the formation in the throat of a false membrane. These are its main features. Now we have to consider what is the specific nature of the disease. Is it the result of certain germs or not? One of your most distinguished American physicians, Dr. Jacobi, does not believe in the germ theory of diphtheria; at least that was his belief two years ago when he wrote upon this subject. You are well aware that certain minute bodies called micrococci are found in the membrane of diphtheria. These are supposed by some to be the cause of diphtheria, while others believe there is nothing specific about them as they are found under other conditions.

When I wrote my book three or four years ago I was rather guarded on this point. I said there was a good deal to be said on both sides of this question; that if these germs did not cause the disease, they had a good deal to do with it. And I consider the question is not yet settled as to whether or not bacteria are the cause of the disease. You are probably aware of the recent experiments of Dr. Wood, of Philadelphia, which have shown that bacteria are exceedingly abundant in the false membrane of the severer forms of diphtheria; that, in fact, their number is in direct proportion to the virulence of the disease; and that they are present in all cases. He demonstrated that these germs actually attacked the white corpuscles of the blood, thus killing the blood, as it were, at its very fountain head. My opinion is, that these bacteria have a most important connection with the disease. Dr. Wood says also that bacteria are present in almost every inflammation of the throat. But the important point which he has drawn attention to is that they are found in numbers corresponding to the severity of the attack. He showed also that their contact with healthy mucous membrane reproduced the disease. When the bacteria became dried up and were no longer active, they were not capable of reproducing the disease. But it may be argued in good faith that the drying process also destroys the specific poison of the disease as well as the bacteria. Therefore I say we are still where we were four years ago; the subject is still *sub judice*. It is of all things, important that you should not lose sight of this question, because, if germs have nothing to do with the disease, you might be led to think it is less infectious than it really is.

This brings us to the point, whether croup is really a separate disease. Now, I hold that croup and diphtheria are quite identical, and that it will not be long before we shall have exhaustive works upon diphtheria which will consider it and croup as identical diseases. One reason why there is so much confusion about this matter, is that the meaning of the word croup is vague, it having been applied to a variety of conditions. There is what is called diphtheritic croup, catarrhal croup, and nervous croup. I think a term that can be

applied so loosely is a very unsatisfactory one to use in medicine. I consider croup with membrane in the throat to be the same as diphtheria. Then there is, as I have just said, catarrhal croup and laryngismus stridulus or nervous croup. I would strongly recommend to give up the term croup altogether, for it is used so vaguely that it only confuses. I believe though, after all, it is merely a theoretical question, and will not materially affect our practice, for we do not treat disease according to names. We look at a patient and observe the character of the attack from which he is suffering, determine the conditions of the pulse, and if he be strong or feeble. We do not treat the patient according to whether the disease is called by this or that name, but according to the indications present in his particular case. The discussion as to the identity or non-identity of croup and diphtheria reminds one of that which was seriously discussed many ages ago, viz. as to how many angels could sit together on the point of a needle, and is perhaps, after all, of little more importance.

We now pass on to that which is of much greater importance, the prognosis. I shall leave out altogether the symptoms and pathology of the disease, for if I were to go into a description of the various forms of diphtheria, it would consume three or four hours. All these matters are thoroughly considered in the text-books. I want to urge upon you not to be guided in your prognosis by statistics. You must consider your patient quite independently of all statistics. The figures published by some authors indicate that half of the patients die, while those of another may indicate that more than half recover. According to our present systems of gathering statistics we can only accurately determine the number of fatal cases, for we have no means of knowing whether all those that are reported as having recovered were really cases of diphtheria. I have known of some gentlemen to have reported treating two hundred cases of diphtheria without a death. But I have always thought that all of these could not have been cases of true diphtheria, or else the physician was exceedingly fortunate in having a large number of very mild cases. When the disease is accompanied by a thick membrane in the throat, especially in the larynx, it is very fatal. Therefore let your prognosis be most guarded.

A point I wish to speak of is, a high temperature early in the disease. This, I believe, to be indicative of a serious case. In diphtheria the temperature is usually not much elevated, but in the severer cases, it is often excessively high from the beginning, and is accompanied with great depression. The case is likely to prove very serious if there is sickness at the stomach, and especially if there be vomiting.

As some of you may know, I consider the disease to originate from germs; that it is from the commencement a local disease. I am in fact of the same faith, regarding this matter as your townsman Dr. Elsberg, who more than ten years ago pointed out the fact that the disease was in almost all cases primarily local. Sometimes the severity of the attack may from the beginning be so great, that the disease will appear to be constitutional from the commencement.

These cases I believe are analogous to those of scarlet fever, where the patient is stricken down from the very moment of onset of the disease. These points bear upon the prognosis.

Now we pass to the treatment, which is perhaps even more important than the prognosis. Here you will find the remedies recommended very numerous, and in many instances directly antagonistic. I remember to have read the report of sixty cases of diphtheria, in which it was stated that all the patients were bled, and all recovered. Such reports show the possibility of making mistakes in diagnosis, and the possibility of finding people who can stand depletion in an extraordinary manner.

We have first to consider the constitutional, and then the local treatment. The constitutional treatment is not less important than the local. Diphtheria is the disease *par excellence* in which stimulants are most important from the beginning. I am an advocate of moderation in the use of stimulants, both in health and disease, but in diphtheria we have an exception. I would advise you to give brandy diluted with water, or port wine and water, from the beginning of the attack. Do not wait for your patients to become exhausted, but stimulate them from the first. When they are beginning to recover, light wines are particularly useful. You must give stimulants not only during the day, but during the night in a large number of cases. I have seen many cases where I believe patients have died because stimulants were not administered during the night. Frequently it is advisable to wake patients to give them stimulants, if they sleep more than four hours. It is important not to let your patient get depressed, and to give stimulants from the first.

I will now pass from the use of stimulants to the use of medicines. Of these the most useful, I believe, is the perchloride of iron. Dr. Jacobi has found this remedy more useful than any other. For general constitutional purposes there is no better remedy. It should be given in full doses. We generally give the tincture or a solution of the perchloride of iron. It is important to give a per-salt. As Dr. Jacobi says, you should give at least a drachm a day; fifteen drops well diluted with water, four times a day. The only times I have not given it is where I have been trying the effects of local remedies, and did not wish to have the results affected by constitutional remedies.

Quinia is of great value in cases having high temperature. These two drugs, perhaps, may be considered the most important constitutional remedies.

All sorts of specifics have been recommended. I have not had any particular success with these remedies. Chlorate of potash is probably the most important. I wish to call particular attention to a remedy introduced by one of your professors, Dr. Beverly Robinson; I refer to cubebs and copabia. These drugs, as many of you may know, have a peculiar influence upon mucous membranes. I have made use of the French pearls coated with sugar, which are readily taken by children, and have had very gratifying success. I have used them principally in the catarrhal form of diphtheria, where the secretion is not very adhesive, and where there is a good deal of catarrh in connection with the false membrane. When there is an epidemic of diphtheria you get a large number of catarrhal cases and in these you will find the pearls to work well.

We pass from the general to the local remedies. Here we have a very wide field. A great many doctors go through life and see very few cases of diphtheria. Some doctors meet with only mild cases, others with severe. Some physicians will tell you they have never lost a case, and will recommend some such simple remedy as chlorate of potash. These statements you should regard with suspicion. Of simple local remedies, lime water and lactic acid are probably the best. One thing in their favor is that they can do no harm. It is a good thing in applying remedies, to have those which can do no harm, even if they do no good. These are much better than strong hydrochloric acid or nitrate of silver, drugs which were formerly used. Strong caustics, we now know, cause an extension of the disease, or an increase in the formation of false membrane, as it is called. Therefore, when we were told by the German physicians that lactic acid and lime water

were efficient remedies in diphtheria, it was very acceptable news. I should state also that solutions of potash have been found very useful. These solutions have a marked effect upon the false membrane. They will gradually dissolve it, as you can demonstrate to yourself by placing some false membrane in a glass of water with the potash. In the living subject, however, where there is a constant reproduction of false membrane, it is a different thing. I have found when I used locally a solution of potash strong enough to dissolve the false membrane, it had an irritating effect. With regard to lactic acid and lime water the result is somewhat different. They do not appear to affect false membrane placed in a tube of water, but in the living subject they certainly do have a dissolving effect upon the false membrane.

It is always difficult to determine the exact effect of any local application upon the false membrane in the throat, on account of the difficulties attending inspection, especially in young subjects, among whom the disease usually occurs. I once had the opportunity, however, of trying those remedies where I could observe their effect. The membrane was situated upon the inside of the lip. I treated one side with lime water, while no applications were made to the other. The side treated got well fastest. I mentioned this detail in passing as opposed to Dr. Jacobi's idea that the influence of these remedies has been over-estimated.

We pass on to another class of remedies, namely, those which have the effect of shutting out the air. These have been used considerably in England but not much, so far as I am aware, in America. I tried some experiments a few years ago of dissolving different gums in ether, chloroform, and alcohol, and I found as a result of a considerable number of trials, that tolu in ether, in the proportion of one part of the former to five parts of the latter, made a good varnish, one that was strong and would not crack, and furthermore, was not irritating when applied to mucous membranes.

Many of these local remedies have been recommended on the ground that they destroy germs. I omitted to mention carbolic acid and salicylic acid as among the most useful of local remedies. Carbolic acid is a very great germ destroyer. All of this class of remedies have been recommended upon the scientific ground that they destroy germs.

Now the principle which I introduced was this: no matter whether it is an animal germ, or vegetable growth, or something else that causes this false membrane to be formed, whatever it may be, it requires the presence of air in order to develop. By excluding the air, we arrest its growth. Hence when I have a patient with diphtheria, I exclude the air from the surface of the affected mucous membrane by the application of tolu varnish. This varnish is in fact a germ destroyer, for germs can not grow without air.

Some of my friends have found difficulty in applying the varnish. The first method of application which I adopted was to wipe the surface dry with a piece of blotting paper, and immediately afterward apply the varnish with a camel's-hair brush. This answers very well when you can do it, but very often the patient retches a little just after you have wiped the surface dry, and again covers it with mucus. To avoid such an accident, I adopted the plan of winding a piece of lint around my finger, wiping the surface dry with this, and then applying the resin. This I have found to answer perfectly well. Even if you do experience some difficulty in the application of the varnish, I advise you to use it.

I have had several patients during the past winter, among the profession, and have had abundant opportunity of testing its value. I shall be exceedingly proud if any of you gentlemen in future times will try the effect of this varnish.

There are only two other points connected with the local treatment of diphtheria that I will call your attention to, namely, the use of steam and ice. Both are very useful, but have to be employed under different circumstances. Ice in the early stages of the disease is often of the greatest comfort to the patient. Small pieces should be frequently taken into the mouth. Its effect is to restrain the inflammation, and if we can do this, we at once diminish the vigor of the attack; so that in the early stages of the disease, you cannot use too much of it.

Now as to the use of the very opposite remedy, namely, steam. I believe it was first recommended by Drs. James, of London, and Oertel, of Munich. Germans always give a philosophic reason for the use of remedies recommended by them. Dr. Oertel says that the effect of steam is to separate the false membrane. True it is that in certain stages of the disease steam is very useful. This is when the false membrane is beginning to separate. I do not believe it is of any use in the early stages; if used then, I think it lowers the powers of the patient. Hence you will have no difficulty in deciding when to use ice and when steam—you are to use ice in the early part of the disease and steam later.

You can make use of some antiseptic, such as carbolic acid or salicylic acid, in conjunction with the steam. It is especially desirable to do this, because at this period of the disease you will find a certain amount of gangrene, and consequently a good deal of fetor. Antiseptics will correct this. These constitute all the points under this head which I will bring to your notice.

I will make a few additional remarks in regard to the performance of tracheotomy in cases of diphtheria. I am very proud to see Dr. Cohen of Philadelphia, present, who has published one of the most complete essays on tracheotomy in the English language. He concludes that the operation should be performed at an early stage. My advice is the same; operate early. When there is considerable false membrane in the larynx, when you see the falling in of the sternum with each inspiration, then is the time for tracheotomy. You should always examine the condition of the thorax, and the posterior part of the chest, to see that the air is going into both lungs. If you find one lung is obstructed I would not operate. But still there are cases where every indication seems to be against operating, and yet the life of the patient is saved by operating. Under such circumstances the question is not whether you or the parents will take the risk, but whether the parents and friends are sufficiently sensible, should the patient die, not to attribute the death to the operation. It is perfectly useless to perform an operation where there is scarcely any chance for recovery, and the probabilities are that it will bring into discredit the whole domain of surgery. You should consider not only the interests of the child but the interests of surgery, for in this way only are we to retain the respect and confidence of the public. If you perform tracheotomy as a rule, perform it early. By so doing many cases that otherwise would result fatally will recover. Of course, if you operate very early a good many cases will recover, for the reason that you will probably operate on cases that do not require it.

By adopting the plan of treatment I have hastily sketched, I feel confident you will meet with your share of success in handling these cases, and will rescue many patients from imminent death.

ORIGINAL ARTICLES.

RUPTURE OF THE SPLEEN.

BY P. J. MURPHY, M.D.,
SURGEON IN CHARGE, COLUMBIA HOSPITAL, WASHINGTON, D. C.

H. K. W., white, æt. 25 years, born in Washington, D. C. Is of nervous temperament, has always enjoyed good health, and led an active life, is of more than ordinary intelligence, having graduated with distinction from Yale in '79, and later from one of our law schools.

He went out to Colorado in the spring of 1882, to visit some friends. He stopped at their ranche, about 600 miles south-west of Kansas City, and 86 miles from a railroad, or physician. While out riding, Friday, March 10, at 3 P.M., was struck in the left side, by a projecting fence rail, and thrown from his horse, remaining senseless for three hours.

Mr. F., his friend, describes the accident in the following manner: "You were riding a horse, and he ran so near the fence, that your left side struck against a fence rail, and you were thrown twenty feet on your back. You did not recover sufficiently to know how you were hurt till the next day. The only thing that you complained of was the pain in your side, and not being able to keep anything on your stomach. You were weak, nervous, and restless, from first to last, but no more nervous and restless than a person of your temperament would be when suffering severe pain. You suffered excruciating pain, part of the time in the bowels, in consequence of cathartics, which it had been thought best to administer; a part of the time in the stomach, apparently from some other cause, to me unknown, and a part of the time also in the injured side. You seemed to suffer almost constantly, sometimes more, sometimes less severe pain, with not infrequent paroxysms of actual suffering. These paroxysms were more severe, and more frequent in the night than in the day. You slept but very little, and that little was at short, infrequent, and irregular intervals, and I think was entirely the result of opiates. You had some fever, and no appetite. You sometimes seemed to relish a glass of milk, or an orange, and on one occasion were pleased with chicken broth. You would sometimes eat a little toast, or taste of meat, but it was without relish, and frequently caused you great distress. You adopted all expedients to find a comfortable position, both by day and by night. You tried the easy chair, the lounge, and the bed, both the sitting and reclining postures, but no position was easy. Throughout the whole, your mind was perfectly clear and active. You comprehended the entire situation, were quick to devise expedients, and ever thoughtful of your friends, and in the intervals of comparative freedom from pain were lively and agreeable in conversation."

The following is the letter of Dr. Sloan, of Kansas City, who was called to take charge of his case, four days after the accident.

"In reply to yours of the 31st ult., I can only state from memory, as I took no notes of your case, I found you, besides some external bruises and abrasions, suffering pain in the left side of chest, increased on full inspiration, with slight friction sounds on auscultation. Tenderness over the spleen with some enlargement. Pulse about 80, temperature 100°. The action of a cathartic provoked so much tormina, as to require an opiate. Discovered no fracture, aneurism, or other internal injury. This is my recollection of your case four days after your injury. Am sorry that I did not take full notes of your case."

. . . . . .

I was called to see Mr. W. on Sunday, March 19th, at 10.30 P.M., and found him much exhausted from the long journey he had taken, having travelled from Kansas City to Washington without intermission. His skin was cold and clammy, pulse 96, eyes sunken, face haggard, and all the symptoms of intense exhaustion. He complained of great pain in his left side. A cursory examination was made, in order to determine the nature and extent of his injury. A critical examination was deemed unadvisable for the present. No fracture of rib was discoverable, there was resonance on percussion over the left chest, expiration slightly exaggerated. There was circumscribed flatness over the region of the spleen, with tenderness on percussion. Hot applications were placed over the left side, covered by an oil-silk jacket, and Pulv. ipecac. comp., gr. v, in capsule, was directed to be given every four hours, till sleep was induced. A small quantity of beef broth, with a wineglassful of sherry wine, was administered, and the patient left to the care of friends for the night.

20th, 10 A.M.—Slept pretty well through the night, except when awakened by the pain in left side. Patient states that he can breathe better, and that the pain is bearable. Bowels not having opened for several days, an enema of soap-suds was directed, which had the effect of bringing away a large mass of feces, cylinder-shaped, and very thick. Directed the following recipe to be taken every four hours:

R.—Hydrarg. chloridi mit.,	.	gr. j.
Bismuthi subnit.,	.	3j.
Sodii bicarb.,	.	3ss.
Pulv. carbo. lig.,	.	gr. xxiv.

M. et div. in chart. No. xii.

Temperature in axilla 99.4°, pulse 98, small and thready.

6 P.M.—Continues about the same; mouth feels dry and clammy. Has a great craving for food and drink. Diet restricted to beef tea (a teacupful) every four hours.

21st, 10 A.M.—Passed a restless night. Complains of great sinking in pit of stomach, and wishes a good drink or a "square meal."

22d, 10 A.M.—A careful examination was instituted. The margin of dulness had extended further down below the false ribs, and fluctuation was discovered. The condition of the patient not improving, and he apparently getting weaker from day to day, a consultation was decided upon by the family, and Dr. Robert Reyburn selected as the medical adviser.

April 6.—Dr. Reyburn agreed as to the presence of a circumscribed swelling, and the presence of fluid, also the advisability of introducing an exploring needle to determine its character. This was communicated to the family, but the operation was deferred till the following day.

7th.—The tumor or swelling was not so prominent, but the area of dulness had increased. This led to the further postponement of operative interference. The pain in the side had now subsided, but constant suffering was complained of in umbilical region. Had hot water-bags applied over abdomen constantly, to relieve this pain. The increased desire for food persisted through all this time, and the stools were unusually hard and copious. The same sense of sinking at the pit of stomach was complained of, and especially on assuming the sitting posture. The patient was evidently losing flesh, very nervous and excitable, and was frequently aroused through the night by the pain around the navel, and would at intervals belch and be somewhat nauseated. Was very petulant, fretful, and complained because he did not get well more rapidly. Four days after the first consultation, a diarrhœa set in, the stools being slightly bloody, and, on account of the sudden and marked flatness of the swelling, it was thought that the circumscribed swelling had communicated with, and was evacuating its contents into the large intestine. There was during this time no marked febrile condition. Accurate thermometric observations were taken twice daily, and the readings at no time exceeded 100.2°, but on one occasion was .3° below normal.

Sunday, May 14.—Patient has been sitting up in a reclining chair for a few days, and thinks he notices the lump in his side to be larger. Upon examination, such is found to be the case. A small needle of the aspirator was introduced, and three pints and four ounces of fluid withdrawn. It was deemed unadvisable to remove the entire contents of the swelling, as the patient seemed to weaken, and presented symptoms of impending shock, and I feared that I might be dealing with a traumatic aneurism (of some of the branches of the splenic to the spleen, or the vasa brevia), rather than a laceration of the spleen. I administered a wineglassful of whiskey, and had the patient put to bed. The fluid was examined by my assistant, Dr. Johnson, who gave the following report:

Amount three pints, and four ounces.

General appearance: when viewed all together, the color was dark cherry-red, but when examined in less amount, was considerably paler. It was slightly viscid. Reaction alkaline, specific gravity 1035. Upon the application of heat it became more viscid, and would fly out of the test-tube if it was held in the flame any length of time. HNO_3 would make it less viscid, and throw down a granular deposit similar to that in beef-tea.

Microscopical appearance: blood corpuscles (red) in great numbers, some normal, others crenated, leucocytes, or white blood corpuscles, three or four times the normal amount, and in some budding was in progress; some oval, with from one to two, or more processes, others dumb-bell shaped, plates of cholesterine, mucus.

May 15, 10 A.M.—The removal of the fluid seemed to relieve the sinking sensation at the pit of the stomach, and he is apparently in better spirits, and is delighted that the swelling has disappeared, as its presence caused him a great deal of anxiety. From this date the patient began steadily to improve, and on June 7, left for Nantucket.

He retured to the city August 28, and on September 23, I made a careful examination of my patient in company with Dr. Johnson, and the following facts were noted. The general appearance of the abdomen is symmetrical on the two sides. There was slight dulness on percussion below the normal margin of the spleen. Taking the point of puncture made by the needle of the aspirator, which was at the centre of the circumscribed swelling, that point is 5½ inches from ensiform cartilage, 2⅜ inches from linea alba, and 7¾ inches from the nipple, on a line passing through it drawn parallel with the body.

In considering injuries of the spleen, its location and relation to the other organs are of primary importance. It is of an oblong flattened form, very friable, and highly vascular, situated in the left hypochondriac region embracing the cardiac end of the stomach.

It is covered by peritoneum, but like all the other abdominal viscera not entirely so. The external surface smooth and convex, is in relation with the under surface of the diaphragm, which separates it from the ninth, tenth, and eleventh ribs of the left side. The internal surface is divided by a vertical fissure, the hilum, into an anterior larger, and a posterior smaller portion. The hilum is pierced by several irregular apertures for the transmission of vessels and nerves and from its margins are reflected the two layers of peritoneum, which invest the organ, on to the cardiac end of the stomach, forming the gastro-splenic omentum, which contains between its layers the splenic vessels, and nerves, also the vasa brevia. The upper end is thick, and rounded, and in relation with the diaphragm, to which it is connected by a fold of peritoneum—the suspensory ligament. The lower end is pointed and in relation with the left extremity of the transverse colon, etc., and is on a line with the lower edge of the ribs. The external, or serous coat is derived from the peritoneum, and is intimately adherent to the fibrous elastic coat. It invests almost the entire organ, being reflected from it at the hilum on to the cardiac end of the stomach, and at the upper end of the organ on to the diaphragm. Now it is easy to see how, from an injury to the organ at this point, or of the vessels, hemorrhage or effusion taking place, that it would be confined between the layers of peritoneum, hilum of spleen, and cardiac end of stomach, and thus prevented till a rupture of one of the walls of this space, from over-distention or otherwise, from gravitating to the more dependent portions of the abdominal cavity, and we would naturally get the following physical signs: slight distention of the abdomen at this point, fluctuation, and circumscribed dulness on percussion.

There are several facts in connection with this case which are worthy of mention.

1st. The rarity of the disease, and still more rare is recovery.

2d. That no ribs were fractured, which is unusual, in so far as I have been able to determine.

3d. The location and character of the swelling were, unmistakably, traumatism to the vessels of the spleen pulp. There was no bruit or thrill peculiar to aneurismal tumors, and the condition of the fluid evacuated showed that it was separated or shut off from the general circulation.

4th. The inordinate desire for food, the modification of appetite and disposition, were well marked, and apparently bear no slight significance to the results obtained in physiological experiments on this organ.

5th. The remarkable change for the better which took place after the removal of the fluid, and the patient's restoration to health after so grave an injury, as the external violence sufficient to produce such an injury is in itself almost always fatal.

THE TREATMENT OF FRACTURE OF THE CLAVICLE.

BY HARVEY L. BYRD, M.D.,

PRESIDENT AND PROFESSOR OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN, IN BALTIMORE MEDICAL COLLEGE, ETC., BALTIMORE, MD.

EVERY surgeon of much experience in treating fracture of the clavicle, must have been struck with the inadequacy and want of adaptability of several forms of apparatus in general use, or employed in the management of that accident at the present time; and has had occasion for annoyance and disappointment at the result of its treatment, in some cases at least, even after the most careful attention, and when circumstances seemed to encourage the hope of a better result.

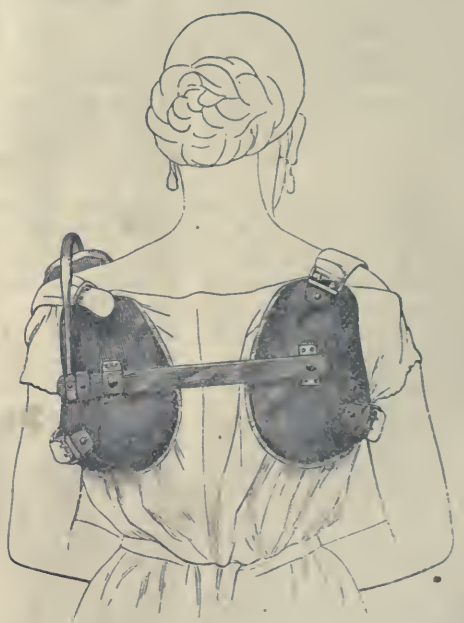
A description of fracture of the clavicle is unnecessary, of course, in an article intended for the perusal of medical practitioners, and a presentation of the anatomical structures, and the relations of the parts involved in the accident would be as superrogatory as an account of the lesion itself, at the present day. Nor is it deemed either requisite, or necessary, in a brief journal article, to comment upon and criticise the various appliances which have been, or are now, in use, in the treatment of this particular trouble.

I will, therefore, only remark, that after more than the third of a century of active professional work, four years of which were passed as an army surgeon in the field, and as chief of two large military hospitals; that my opportunities have been ample for contrasting the merits of the more popular appliances used in the treatment of such cases.

During this long period of time, I have found that though success was often attained, and satisfaction with the result of the treatment secured to the patient, that these important ends were reached without special regard to the particular apparatus employed, *i. e.*, the surroundings, and conformity of the patient to the instructions given him, were factors of equal, if not superior, value to the mechanical appliance that was used for his relief.

Practitioners are aware of how difficult a matter it is, sometimes, to keep patients quiet sufficiently long to secure proper union of the fractured ends of the bone, arising mainly from the apparently trifling character of the injury; and hence, the necessity for the use of an apparatus which *will* keep the broken ends in apposition, in every case, and allow at the same time of exercise in the open air, if the patient chooses to take it.

Experience will show that this important desideratum has been fully met in the apparatus represented in the accompanying cut; and it will be seen that there are improvements which meet all the other requirements involved in fracture of the collar bone, viz: extension and counter-extension; freedom in the movements of the ribs and muscles concerned in respiration, etc. etc. Thus, it would seem, there is absolutely nothing more needed as a mechanical appliance for the scientific and successful treatment of such fractures, when this instrument is properly adjusted. The use of an ordinary sling or handkerchief will give all the comfort and support that is required for the elbow and forearm, when the patient desires to be up.



The apparatus has been submitted to several of my *confrères* and professional friends, and their verdict, after careful examination, has been a hearty approval of its merits. It will be readily perceived, upon an inspection of the cut, that all the necessary leverage for reducing the fracture, and keeping the broken ends of the bone in apposition, is obtained by means of the two plates in their action upon the inferior angles and dorsi of the scapulæ, which serve as fulcrums for drawing and keeping the shoulders backwards, and for the attachment of a special lever for action, as necessary, upon the shoulder of the fractured side. Thus the shoulder-straps, attached

by buckles to the superior and inferior lateral margins of the plates, may be so adjusted as to meet all the requirements of a majority of cases, without bringing the special lever for the shoulder into requisition at all; and when the ordinary sling is added for the comfortable support of the elbow and forearm, the usual bandage, axillary pad, etc., become entirely superfluous and unnecessary. Any amount of leverage that might be desired, however, can be readily added to the apparatus by attaching buckles to the inferior lateral margins of the plates, for securing and properly adjusting a piece of webbing around the front and sides of the chest. (These buckles do not appear in the cut.) From what has been said above, it will be readily perceived that the apparatus is well adapted to a larger field of usefulness than that of fracture of the clavicle, valuable as it is in that trouble. Such cases, for example, as stooping of the shoulders, as is often found in schoolgirls and boys, in hump or round-shoulder in the adult, etc.

Description of the Apparatus.—Reference to the cut will show it to be composed of two metallic plates, of sufficient size to cover the scapulæ of an adult person. These are connected together by means of a flat steel bar, to which is attached a lever, extending over and fronting the anterior apex of the shoulder, through the distal extremity of which passes a thumbscrew from before backwards, and to the end of which a concave metal plate is attached, with its concavity looking to the anterior apex of the shoulder. This lever is adapted for transference to either shoulder. Screws are used for keeping the several parts in their proper places, and to allow of the adjustment of the apparatus to persons of different sizes. All parts of the instrument that come in contact with the surface of the body of the patient are nicely padded.

I am indebted to the skilful workmanship of the Messrs. F. Arnold & Son, instrument makers, of this city, for the accuracy and faithfulness with which they executed my design, and from which the accompanying cut was taken.

127 Arlington Avenue.

MEDICAL PROGRESS.

Hyoscine.—This alkaloid is as yet not much known. Mr. Snell's experience with it up to the present is not extensive, but he believes that it possesses qualities which will probaby bring it into vogue. Two salts of hyoscine have been supplied to him—a bromide and an iodide. At first he used a solution of the strength of the ordinary atropia one (2 gr. to 1 oz.), but after reading the abstract of a paper by Emmert (abstracted from the *Archiv für Augenheilkunde*, in the *Ann. d'Oculist.*, vol. ii., 1882, p. 51, and *Practitioner*), of Berne, on this alkaloid, it appeared to be unnecessary to do so. He states that a drop of one-tenth per cent. hyoscine solution is more rapid and more manifest on the pupillary sphincter and the accommodation than a drop of atropia solution of one-half per cent. He can bear out this statement as to the rapidity of action on the pupil, as dilatation certainly takes place quicker than with atropia. He does not know, however, that its effect passes off in a much shorter time than atropia; nor does his experience allow him to say anything as to its efficacy as an accommodation paralyzer. Undoubtedly it is a powerful pupil dilator, and it is asserted to be more serviceable for breaking down iritic adhesions than the other mydriatics. In one case in particular, with numerous adhesions, which yielded little to atropia (2 gr. and, he thinks, 4 gr. solution), and with no appreciable change in the vascularity of the ocular surfaces, and this notwithstanding the internal administration of hydrarg. perchlor.; here the substitution of (1 in 1,000) hyoscine solution produced a somewhat wider dilatation of pupil, and the rapid disappearance of the surface vascularity.

The present price of the drug is high, but independently of the necessary reduction with increased demand, the weakness of the solution used materially reduces the cost. It should be added that Emmert, in his paper, refers to the hydriodate of hyoscine.—*Ophthalmic Review*, October, 1882.

Bacteria of Venereal Diseases.—Dr. Leistikow (*Deutsche Med. Zeit.*, No. 36) was unable to find any specific bacteria in the hard or soft sores, but was successful in the case of gonorrhœa. It is affirmed that a specific can be distinguished from a simple urethral discharge by the aid of the microscope. The microbes are only sparingly present in the stage of acute inflammation with profuse thick pus; their numbers are greater in the thin milky discharge of chronic gonorrhœa. They were discovered also in a case more than a year old; this is held to demonstrate the danger of infection at that date. Birch-Hirschfeld, like Klebs and Aufrecht, was able to find bacteria in syphilitic new formations in the brain, lungs, liver, stomach, and bowels; they were most abundant at the limit of the granulation tissue. Fuchsin was the dye used. Condylomata, hard chancres, and a papilla from a papular syphilide were taken fresh and examined for the sake of comparison. Microzymes were richly present in the cells of the rete Malpighii and in the connective tissue of the papilloma. Nothing was made out of the blood. The individual bacterium is a very short (μ, one micromillimetre) and relatively thick rod, with the ends rounded off; in some preparations a spindle-shaped group was formed of rods three to five times longer, lying parallel to one another. Besides these existing free in the tissues, others (of the smaller sort) were seen *in* the cells of the granulation tissue.—*Med. Times and Gazette*, Sept. 30, 1882.

The Incubation Period of Scarlet Fever.—In his last annual report on the health of the Newmarket Rural District, Mr. Armistead refers specially to an outbreak of scarlet fever as one of peculiar interest, as serving to throw considerable light upon the still doubtful points of the duration of the infection in scarlet fever, and also upon the period of its incubation. An outbreak occurred in a village early in the year, and the disease was carried by one of the cases to another village (Westley), where every precaution was taken. But when the outbreak was nearly ended, a man from a different part of the district (Bottisham Fen) took his wife and three children in a cart to Westley on August 12th or 13th, and stayed next door to a child who had been ill with scarlet fever for six weeks, but had finished desquamating, and was so far recovered that she and the children from Bottisham Fen were allowed to play together. They went back to Bottisham Fen on the following day, and on August 19th the scarlet fever rash was distinctly seen on all three children simultaneously. The disease spread to six other children in the Fen, and to two others in another village. With regard to the duration of the fever, Mr. Armistead states that the child at Westley sickened on July 2d, the children from Bottisham Fen came in contact with

the child at Westley on the evening of August 13th, and on the following morning—the whole of the period of exposure to infection being only about twenty-four hours—and then they returned home. To Mr. Armistead's mind these facts show that the infection of scarlet fever will last six weeks at least, and be apparently as strong at the end of that time as ever it was. As to the period of incubation on August 14th: the children were removed quite away from any source of infection; on the 19th, the rash was out; and the disease actually began on the 18th, after a period of incubation of four days, or about ninety-six hours, which is the same as Mr. Armistead has found in two former cases which he investigated.—*British Medical Journal*, Sept. 30, 1882.

The Transmission of Syphilis.—From observations made on one hundred and nineteen syphilitic families, Kassowitz comes to the following conclusions:

1. A healthy woman can, without herself being infected, bear a child who inherits syphilis from its father.

2. A child may be born untainted if its parents, at the time of conception, are healthy, even if the mother should acquire syphilis during her pregnancy.

Caspany is strongly opposed to this view. Even if one holds that the syphilitic poison is located in the cellular elements, the impossibility of their diapedesis into the fœtal blood has never been proved. Caspany has, moreover, succeeded in finding granules of cinnabar in great number in the blood of the fœtus in pregnant rabbits in whose jugular vein he injected an emulsion of cinnabar. He does not state as to whether this transfer occurred through the white corpuscles or not, but this mode is rendered probable from the experiments of Max Schultze.

Generally, the conditions demanded by Fournier as to the advisability of marriage of syphilitics are accepted.

1. At least three to five years must have passed from the date of infection.

2. Thorough mercurial treatment must have been employed.

3. If either or both parents are syphilitic before conception, the child may become syphilitic.

4. If both parents are sound at the time of conception, and the mother subsequently becomes syphilitic, the disease may be transferred through the placental circulation, and the child be born with congenital syphilis.

5. If the father is syphilitic before the conception, and the mother sound and not infected by the father, the syphilitic poison may reach the mother through the placental circulation from the child, and the mother either rendered syphilitic or her constitution so changed that she obtains an immunity to the disease.

The last opinion is only advanced with considerable reserve.—*Deutsche med. Woch.*, July 29, 1882.

The Contagion of Phthisis.—Dr. C. T. Williams read a paper with this title before the Section of Medicine at the recent meeting of the British Medical Association. His conclusions are as follows:

1. The evidence of large institutions for the treatment of consumption, such as the Brompton Hospital, directly negatives any idea of consumption being a distinctly infective disease, like a zymotic fever.

2. Phthisis is not, in the ordinary sense of the word, an infectious disease; the opportunities for contagion being most numerous, while the examples of its action are exceedingly rare.

3. In the rare instances of contagion through inhalation, the conditions appear to have been—(1) close intimacy with the patient, such as sleeping in the same bed or room; (2) activity of the tubercular process, either in the way of tuberculosis or of excavation; (3) neglect of proper ventilation of the room.

4. In addition to the above, a husband may, though he rarely does so, infect his wife by coition: and this risk is considerably increased in the event of pregnancy.

5. By the adoption of proper hygienic measures, such as good ventilation, and separation of consumptive from healthy people at night, all danger of infection can easily be obviated.

Mr. Robert Robertson also read a paper with a similar title at the same meeting. He expresses his conclusions as follows:

1. Among one hundred individuals affected, about one-third have recognizably been exposed to the disease within a period having an appreciable connection with the onset of their own illness.

2. Among married couples, of which one person has been affected, there has been immunity from disease in the other person in, at least, 80 per cent. of those inquired into; and that, among the children in the families represented by patients under observation, immunity from disease occurred in nearly 69 per cent.

3. The existence of phthisis in members of the preceding generation was attended with an increased frequency of its occurrence in the succeeding one, amounting to nearly 13 per cent. Hence it may be concluded that:

1. Probably, in every case of phthisis, the inception and presence of a specific bacterium is essential to the destructive process.

2. Probably there is a certain risk of communication of the disease to unaffected persons, and, *cæteris paribus*, the greater, the more intimate the association.

3. Continued association with a consumptive person is probably not in itself sufficient to originate the disease in any instance.

4. The preparation of the lung-tissue by a chill, debility, etc., is probably as essential to the destructive process as the presence of the specific bacterium itself.—*British Medical Journal*, September 30, 1882.

Operative Treatment of Strangulated Hernia.—Dr. Rochelt reports a case of a man, aged 54 years, in whom a right-sided inguinal hernia had existed for many years without giving any trouble, but which finally became irreducible and caused symptoms of strangulation. The operation showed that the intestine was ruptured in three places, and that a large portion of the gut, about 12 cm. long, was gangrenous. This portion was resected, and the two ends of the divided intestine united by means of Lembert and Czerny's sutures; a drainage-tube was inserted in the canal, and the external wound dressed after Lister's method. The patient died of collapse eight hours after the operation.

Dr. Rochelt also reports three cases of herniotomy for strangulated femoral hernia, in all of which the operation resulted favorably.—*Wiener med. Presse*, September 17, 1882.

Boric Acid in the Treatment of Boils.—Dr. Garrigues states that recently he has employed a paste of boric acid in a number of cases of boils on the face and neck, invariably with the most satisfactory results. The combination he uses is the following:

Powdered boric acid,	4 grammes.
Vaseline,	20 grammes.
Benzoin powder,	0.50 centigrammes.

This ointment is perfectly non-irritating, and can be preserved indefinitely. The boric acid should be incorporated directly with the vaseline, and not first dissolved in glycerine or alcohol, or it will cause irritation.—*Journ. de Médecine de Paris*, Sept. 23, 1882.

Fatty Degeneration of the Liver.—The diagnosis of fatty degeneration of the liver is often extremely difficult—impossible unless the organ is enlarged, and when it is increased in size often doubtful, since the characters of this enlargement are common also to others. MM. Lépine and Eymonnet have drawn attention to a new symptom of the condition, which they believe to be of considerable practical importance. The former, two years ago, called attention to the value of an estimation of the biliary sulphur of the urine as an evidence of the degree of activity of the liver. The indication now pointed out is drawn from the same source. The phosphoric acid of urine, which is in the form of phosphate, is completely removed by treating it with the magnesian solution and baryta water, so that the filtrate contains no trace of phosphoric acid. The liquid is then evaporated, the residue calcined with nitrate of potash, redissolved in water acidulated with nitric acid, and treated with the magnesian solution; a little phosphoric acid will be found, which has evidently been newly formed. This is produced by the destruction, at the moment of calcination, of the phospho-glyceric acid normally contained in the urine, and which forms an integral part of lethicine. In the normal condition the quantity of phosphoric acid thus produced in normal urine is extremely small, and does not exceed a centigramme—*i. e.*, not more than the two-hundredth part of the amount of urea contained in the same volume of urine. In several cases of fatty liver the observers have found that the amount, in proportion to the urea, was increased five-fold, or even ten-fold. At present, in no other condition, physiological or pathological, have they met with a similar increase. To what is this fact to be ascribed? Some years ago Dastre and Morat pointed out that the fat of the liver, like many other forms of fat found in the economy, contains lethicine. Lépine and Eymonnet have verified this statement by the direct analysis of livers which were in a state of fatty degeneration, and they have found, moreover, that the amount of lethicine under these circumstances is very large, amounting to no less than 3 per cent. of the fresh organ, and 15 per cent. of the dried tissue.—*Lancet*, September 23, 1882.

The Estimation of Peptone.—Schmidt-Mülheim uses the red color which a solution of peptone assumes on the addition of sodium hydrate and cupric sulphate. To make a standard solution a convenient known quantity of peptone is taken and dissolved in water. To this solution sodic hydrate is added, and then a weak solution of $CuSO_4$ until the wine-red color begins to change into blue, whereupon the entire mixture is diluted with water so that three thousand cubic centimetres contain exactly one gramme of peptone. To determine the amount of peptone in a given liquid (from which other proteids have been removed) a small amount of sodic hydrate is added, and then just enough $CuSO_4$ to bring about the change from wine-red into blue, as in preparing the standard solution. This being done measured quantities of each are brought into little glass boxes with perfectly parallel sides, standing in a good light and against a white background. Over these boxes are burettes from which water is allowed to drop until the colors of the solutions to be compared are identical, after which a simple calculation gives the amount of peptone present. This method has, of course, all the objections of colorimetric methods in general. Schmidt-Mülheim found its extreme error to be + six per cent.—*Boston Med. and Surg. Journ.*, September 28, 1882.

Hydatid Cyst of the Heart.—M. Arnold (*Gaz. des Hôp.*) reports the case of a young man, 21 years of age, who had been subject to fainting spells—heart's action energetic but the pulsations regular and normal—cyanotic condition of skin, without true respiratory embarrassment, general and confluent urticaria, manifest tendency to algidity. The autopsy discovered three hydatid cysts at the apex of the left lung; in the pulmonary artery numerous free hydatids of all sizes, still more hydatids in the right ventricle. In the right auricle a cystic tumor semi-collapsed with an enlarged slit-like opening towards the tricuspid orifice and filled with hydatids; the liver and spleen contained no cysts. —*Canadian Journ. of Med. Science*, Oct. 1882.

Detachment of the Retina. — Denissenko (*Aerztl. Zeit.*, 1882, Nos. 1, 2, 3, 4, 6) rejects the theories of Iwanoff, Klein, Jäger, Coccius, Adamük, and Rählmann in regard to detachment of the retina, especially that of traumatic origin; he and Schneller point out that these theories do not explain why and under what conditions traumatic detachment is easily cured in one case but remains incurable in the other; he discards entirely Schneller's conception of the lymph-currents in the retina. He admits that affections of the choroid may influence (though not primarily) the detachment of the retina, but maintains that in the retina itself all the conditions for the development and continuation of this pathological process are given.

Based upon his own histological investigations, Denissenko thus explains detachment of the retina. In chorio-retinitis (sometimes independently), atrophy of the rods and cones gradually sets in, extending from the outer to the inner parts and nuclei. Thus cavities are formed in the outer granular layer, which easily unite to form larger ones, and are only bounded by the limitans externa. An injury easily produces a rent in the latter; the lymph escapes from the cavities and penetrates between the retina and choroid, detaching the former. The hyperæmia increases the secretion of the lymph from the retina considerably and thus sustains the detachment.

The detachment is cured when the lymph is prevented from penetrating beneath the retina, either by adhesion of the rods and cones over the rent in the limitans externa, forming an isolated cavity, or by union between the retina and choroid around the rent, with formation of a cavity. The former event is so frequent in owls and horses that the author was at first inclined to consider it a normal condition.

The lymph causing the detachment generally comes from the retina, but sometimes from the choroid; in the latter case, however, detachment can only take place when the tension in the eye is negative.

The changes in the vitreous are only secondary results of the detachment of the retina.—*Archives of Ophthalmology*, September, 1882.

Venereal and Common Warts.—Unna (*Monatshefte für prakt. Derm.*, 1882, Band 1, No. 3, p. 96) recommends for the treatment of condylomata acuminata and ordinary warts the continuous application of unguent. hydrarg. containing five per cent. of arsenic. In the case of a young girl upon whose hands were a hundred or more warts, the unbroken application for three weeks of a plaster containing in each 0.2 square metre 10 grammes of arsenic and 5 grammes of mercury, caused entire disappearance of the disease without any irritation of the normal skin. Cure was effected not by reason of necrosis and destruction of the warts, as after the use of caustics, but by resorption, as in cases of spontaneous cure.—*Boston Medical and Surgical Journal*, Oct. 5, 1882.

Blennorrhœa Neonatorum.—According to Haussmann, in a recent monograph on this subject, most cases

of blennorrhœa neonatorum are due to infection with the vaginal secretion of the mother, though the lochia or the sero-purulent secretion of a sore nipple or inflamed breast may also be the cause. It may also be produced by pus from a sore upon the child, or by foreign animal tissue, especially pieces of the placenta placed upon the eyes. One eye may also infect the other, or it may be conveyed upon the eye by the substances used in oiling the finger or for local application. In order to prevent the infection every woman should be cautioned to check while yet pregnant any discharge of the genital organs. If an increased secretion is not noticed until the beginning or during the course of the birth, a moderate mucous secretion may be stopped so completely by prophylactic irrigation and careful disinfection of the vulva in case of a moderately long birth-act of a multipara, that it is sufficient to disinfect the eyelids after the head is born in order to prevent infection. If there is a profuse purulent, or thin serous discharge, however, the genital organs must be frequently cleansed. The lids and their surroundings should be carefully disinfected after the birth of the head, and before they are first opened, in order to prevent any infectious substances from reaching the conjunctiva. If it is impossible to amplify these prophylactic measures before the eyes are opened, a two per cent. solution of nitrate of silver should be dropped into the conjunctival sac. After the birth of the child great care should be exercised that the lochia or the secretion of a sore nipple does not come in contact with the eye. In lying-in hospitals and foundling asylums the strictest disinfection should be practised, and the children with healthy eyes should be kept apart from those with sore eyes.—*Archives of Ophthalmology*, September, 1882.

PATHOLOGY AND TREATMENT OF RHINOPHYMA.—According to DR. HANS VON HEBRA (*Vierteljahresschrift für Derm. und Syph.*, viii. Jahrgang, Heft 4, p. 603), histological examination shows the normal elements of the skin in a condition of distorted, irregular hypertrophy. The structures in which this hypertrophy is most manifest are the bloodvessels, connective tissue, and the sebaceous glands, notably the latter, which attain gigantic size, and become transformed into cyst-like bodies. The epithelial layers covering the papillæ are the only tissues not participating in the pathological process. Contrary to Wilson's opinion, the affection has nothing in common with elephantiasis Arabum. Rhinophyma never originates with, nor is accompanied by, inflammatory processes, while the true elephantiasis Arabum consists essentially in hypertrophy of connective tissue, due to repeated attacks of erysipelatous inflammation, and in the resulting chronic œdema of the parts. In elephantiasis the œdema, especially in the more recent cases, is so great that upon incision into the diseased tissues, large quantities of albuminous fluid escapes, which is never the case in rhinophyma. In the latter disease the tissues are not soaked with fluid like a sponge, but show infiltration merely of embryonic cells. In elephantiasis the corium and papillary layers of the skin take but little share in the pathological process, which is confined to the subcutaneous tissues, directly the opposite being true of rhinophyma, so that periostitis and consequent new formation of bone, so common in elephantiasis, does not occur in rhinophyma.

The treatment followed by the author, with encouraging results, consisted in paring down the excrescences upon the nose, and carving as good a looking feature as possible out of the shapeless mass. By reason of the existing dilatation of the bloodvessels, the bleeding is often excessive, but may always be controlled by compression. Subsequent treatment is symptomatic and antiseptic, the raw surfaces eventually becoming covered with a layer of sound epidermis, showing here and there only traces of cicatricial tissue.—*Boston Medical and Surgical Journal*, Oct. 5, 1882.

THE INFLUENCE OF TEMPERATURE ON THE DEVELOPMENT OF CHARBON.—M. PASTEUR demonstrated, two years since, that fowls contracted charbon only when their temperature was lowered, their normal temperature being 111° Fahr. M. Paul Gibier has recently determined that frogs contract charbon when under the influence of relatively high temperature. He placed twenty frogs in tepid water, and inoculated them with charbon virus; five of them contracted the malady. Their blood indicated the presence of bacteria. These elements were larger than those observed in the bovine and ovine species. Guinea-pigs and rabbits were inoculated with the blood of the frogs, and contracted charbon.—*Brit. Med. Journ.*, Sept. 30, 1882.

HEMORRHAGIC PACHYMENINGITIS AND THE FORMATION OF NEW MEMBRANES IN THE DRUM-CAVITY.—MOOS and STEINBRUGGE (*Zeits. f. Ohrenheil.*, xi. 2) illustrate the connection between hemorrhagic pachymeningitis and the formation of new membranes in the drum-cavity, by the following case: The patient did not exhibit any loss of hearing, but complained of noises in the ears and similar sensations in his head. He had had an extensive hemorrhage into the optic nerve sheaths, the incarceration of the optic nerves producing choked disks. At the autopsy, in both temporal bones the adventitia of the branches of the internal auditory artery had a glassy appearance, and showed ring-like swellings. There was fresh extravasated blood between the nerves at the base of the left modiolus. The structure of the newly formed membranes in the tympanic cavity was made up of light, finely fibrous, wavy connective tissue, with a few oval or spindle-shaped nuclei. This tissue surrounded large and small meshes of bloodvessels. The vessels were generally small, of uniform size, and had the anatomical structure of capillaries. There were no traces of arterioles. Along the course of the vessels, and in the interspaces between them, were numerous small extravasations of blood. In hemorrhagic pachymeningitis the morbid process follows the course of the meningeal artery; and since the tympanic cavity derives at least a part of its nourishment from this artery, we may consider the membranes as a result of the disease, which passes by preference along certain blood-channels. The diagnosis in the case of the process in the brain was uncertain in the beginning, lying between pachymeningitis hemorrhagica and intracranial tumor. As the diagnosis of the tympanic disease just described can be made with the otoscope on account of the peculiar mixed color of the drum-head, it may be of great service in settling the diagnosis of pachymeningitis.—*New York Medical Journal*, October, 1882.

LUPUS.—The following conclusions are given by DR. RAUDNIZ (*Vierteljahresschrift für Derm. und Syph.*, ix. Jahrgang, Heft 1, p. 81), as the result of the statistical examination of two hundred and nine cases of lupus. Neither anatomically nor clinically can a difference between scrofulous and idiopathic lupus be made out, the disease appearing in the same form in already scrofulous and in entirely healthy individuals. A combination with inherited tuberculosis is only discernible in from ten to fifteen per cent. of all cases. The abscesses of the lymphatic glands, so frequently met with in scrofula, are almost never found in lupus. A contemporaneous manifestation of lupus in blood relations is seen only in the rarest instances, and hereditary transmission of lupus from parents to children

perhaps never takes place. The infrequency of association between lupus and pulmonary tuberculosis decidedly speaks against the identity of these affections. On the other hand, the facts that in at least thirty per cent. of the cases observed, lupus was developed upon or only in the neighborhood of cicatrices due to scrofulous disease, or upon mucous membranes already changed by catarrhal processes; that in twelve cases injury, and in eight cases local attacks of erysipelas were given as exciting causes of the disease, would indicate that lupus is often due to a localized, specific predisposition, the nature of which is entirely hypothetical. The small proportion of cases, seventeen in number, in which lupus was found in combination with often trivial affections of the skin, contradicts the assumption that in lupus we have to do with a generalized predisposition of the skin to pathological changes.—*Boston Medical and Surgical Journal*, Oct. 5, 1882.

The Temperature of the Human Stomach.—Dr. Rodsajewsky (*Deutsche Med. Zeit.*), of Kiew, has been making observations on the temperature of the stomach in a patient with gastro-fistula; the opening had been made for stricture of the œsophagus due to swallowing sulphuric acid. Synchronous investigations were made in the stomach, rectum, and axilla. He finds that the gastric temperature is dependent on two factors—(1) the general diurnal variation of the body-heat; (2) the temperature of the food given. The temperature of the latter diminishes during digestion. The gastric heat is lower than that of the rectum during digestion, but higher than the axillary. The introduction of hot nourishment affects the whole body as well as the stomach.—*Medical Times and Gazette*, Sept. 30, 1882.

Antiseptic Solutions of Atropia.—Mr. Simeon Snell states that for some time he has been under the impression that the irritation caused frequently after the prolonged use of atropia, partaking frequently of a species of granular ophthalmia, was owing to the fungus which so readily forms in solutions of this alkaloid. With a view to counteracting this, he had already used solutions to which an antiseptic (salicylic acid) had been added, when the notice appeared in the Ophthalmic Review (p. 58) on the observations of Kroemer on this subject. He fancies, certainly, that solutions made with salicylic or carbolic acid are better borne than the ordinary aqueous solutions. He has noticed also, though not invariably, that in a case where the watery solution had occasioned irritation, it has become lessened or subsided on the substitution of the antiseptic solution. It seems that those cases in which, perhaps, one application is followed by œdema and swelling of the lids—a genuine atropia erysipelas—belong to a different category than do those resulting merely from the prolonged use of atropia for sometimes weeks or months. The former is more of the character of an idiosyncrasy.

A good plan to prescribe atropia, he believes, is with vaseline. In some cases it is certainly better tolerated in this way, and the vaseline is aseptic.—*Ophthalmic Review*, October, 1882.

An Operating Couch for Venereal Wards.—Dr. O. Peterson writes, in the *St. Petersburger Medicinische Wochenschrift*, a short account of a new kind of couch now employed in the syphilitic wards of the Alexander Hospital, St. Petersburg. In minor operations about the groin and the genitals, the loins and nates of the patient are apt to become soaked in blood, morbid secretions, or lotions used for washing the wound or seat of disease. To avoid this inconvenience, Dr. Peterson has contrived a bed, interrupted in the middle by a space one square metre in extent, unoccupied by any mattress; on each side of this space, towards the head and foot of the bed, is a mattress covered with macintosh. A deep tray is fitted to the iron sides of the bed, so as to lie under the open space, the tray is perforated by a large aperture through which the fluids may escape into a receptacle beneath. A stout iron bar bridges over the space, being fixed to the iron sides of the bed, along which it can slide upwards and downwards. In the middle of the bar is a raised portion, convex upwards and covered with a narrow macintosh pad or cushion. If a bubo has to be laid open, the couch is rolled alongside the patient's bed, and he is raised on to the couch, the bar over the space being slid under his nates, so that his sacrum rests on the elevated cushion. The sinus, when laid open, can be freely washed and syringed, the fluid running down the perineum or over the pelvis, by the flanks, into the tray under the space, and the integuments of the patient's back escape all contact with the fluid. The flanks and perineum can readily be dried. By a contrivance, the foot of the couch can be elevated or depressed, to place the patient in a convenient attitude for phimosis operations, or for any incisions in the perineum, where much blood is lost, and free washing with water or lotion is required.—*British Medical Journal*, September 30, 1882.

Digestion of Cane-sugar in the Human Stomach.—From experiments made on this subject, Leube (Virch. *Arch.* lxxxviii. 2, 1882) concludes that experiments which have heretofore been done were rendered untrustworthy by the fact that the sugar used was not of pure quality. He insists that the first requisite for the success of the experiment is the purity of the sugar used. It must be taken in the form of crystals. We must always subject the specimen to the sulphate-of-copper reduction test before using it. He experimented with the gastric juices of healthy and diseased stomachs, and finds that they act quite differently as to their effects on cane-sugar. Both possess the power of reducing cane-sugar, but their powers of absorbing the reduced product are not the same. The action of a healthy stomach on cane-sugar is almost nothing, but that of an unhealthy stomach is very strong. He came to the conclusion that: 1. The gastric juices of healthy stomachs, and those of some forms of diseased stomachs, have the power of reducing cane-sugar. 2. The reduced sugar after having been formed, is absorbed by a healthy stomach, but not always by a diseased stomach. 3. The acids of the gastric juices play an important *role* in reducing the sugar in the stomach.—*New York Med. Journ.*, Oct. 1882.

A Source of Error in the Examination of the Knee-phenomenon.—Prof. C. Westphal (*Arch. f. Psych. u. Nerv.*, Bd. xii.) calls attention to the fact that certain patients, in whom the knee-phenomenon has been positively absent for a long period, may exhibit at certain stages of the disease strong contraction of the quadriceps on percussing the patellar tendon.

Three cases are cited in which this occurred, persisting for a short time, and then disappearing. The author concludes that this is not a return of the tendon-phenomena, but is a skin reflex; for when a fold of the skin over the patellar tendon was lifted and squeezed between the fingers, contraction of the quadriceps followed; also pinching and percussing a fold of the skin in other parts of the leg may excite in some cases contraction limited to the quadriceps or extending to other muscles of the leg and thigh. There exists, he says, two independent phenomena: namely, a true, and a pseudo knee-phenomenon. It may be claimed that, as in tapping over the tendons, the skin

is necessarily excited; at the same time the presence of the true phenomenon in such a case could not be proven. Opposed to this are the facts that, in the first case (tendon-phenomena), the ordinary immediate and quick contraction follows percussion, while in the second (skin reflex), at least at first, a distinctly appreciable interval occurs. As a rule, also, stronger percussion is required to produce contraction in the latter than in the former case.

The author reports experiments made by himself and others to elucidate this nature of tendon-phenomena; in one of which, notwithstanding that sections of the fifth, sixth, and seven lumbar, and first sacral pairs of nerves were made, the knee-phenomenon remained completely preserved. He enters into a consideration of the question whether it is a true reflex or not. Although leaving the question undecided, he still favors his former view, that muscular tone and a certain degree of tension and vibratory power of the tendons are the only conditions necessary for the production of rhe tendon-phenomenon, the additional theory of a teflex process by means of centripetal nerves from tendons or muscles being unnecessary.—*Journal of Nervous and Mental Diseases*, July, 1882.

Burns of the Eyeball by Chemical Agents.—In speaking of this subject, Weinberg (*Rec. d'Ophthal.*, June, 1882) takes up first the subject of burns from acids. He finds the accidents caused by mineral acids generally more severe than those caused by metallic oxides, because being liquids they spread much more easily and cause more extensive accidents. The accidents caused by the contact of the conjunctiva with acids vary according to the degree of affinity which the latter have for water, and according to the extent of the surface of contact. When the agent is alkaline, as, for instance, quicklime, the results are much more grave. Immediately after its introduction into the eye, there is seen upon the conjunctiva a thick, white, adherent membrane, surrounded by a chemosis. Burns of the cornea are graver than those of the conjunctiva. When only the superficial layers are injured, the scar is white and transparent, but when the whole cornea is involved, it is hard, white, and opaque. Burns of the sclera are usually superficial, it being protected by the conjunctiva. As regards treatment, Weinberg advises first a careful removal from the eye of all trace of the chemical agent which may have entered it, and then dilution or neutralization of the agent, cold water syringing being the best means for this purpose, except in cases of burns by quicklime, where it should never be employed.—*New York Med. Journ.*, Oct. 1882.

Rupture of the Uterus.—Dr. R. H. Sabin presented a specimen of rupture of the uterus at a meeting of the Medical Society of the County of Albany. It had been thought to be a slough of the fundus resulting from inflammation, but was concluded to be a true rupture, extending across the entire fundus, with ragged edges, the adjacent parts being thinned. The uterus was the size of one at the third month of pregnancy; it presented no appearance of malignant deposit.

The subject, aged 46, was the mother of eight children, the youngest 4 years old. In August she complained of gastric irritation, but did not believe herself pregnant. Six weeks later she was taken with profuse flowing, for which she was given ergot, tannin locally and afterwards tamponed, checking the hemorrhage. No evidence of fœtal existence was found. She was much prostrated, and stimulants were given as freely as she could retain them. This was October 4th. On the 6th she was taken with severe pain across the lower part of the abdomen. She died the same day. Some time prior to the commencement of the hemorrhage she had been taken with bearing-down pain, for which another physician had prescribed. He found a polypus the size of a fig attached to the uterus, projecting from the vulva, which detached on the introduction of a sound; no hemorrhage followed, and she was gaining fair health up to the time when the flowing began. Autopsy showed the uterus as described. There was a little pus, but no blood in the peritoneal cavity.

It had been suggested that the case was one of extra-uterine pregnancy, the supposed polypus being a portion of membrana decidua, but this diagnosis was subsequently withdrawn by the author. On discussion, there was conclusion that a body of some sort must have been present within the womb before rupture occurred.—*Medical Annals*, September, 1882.

Convallaria Maialis.—M. Royer recommends the following formula for the administration of this drug:

Extract of *Convallaria maialis*,	q. s.
Simple syrup, . . .	100 grammes.
Tincture of sweet orange-peel,	5 "

This is said to make a very agreeable mixture, resembling syrup of bitter oranges.—*Bull. Gen. de Ther.*, Sept. 15, 1882,

The Base and Acid Relations of the Serum of the Blood and other Animal Fluids, and their Relation to the Formation of Secretions.—Prof. Maly (*Wien. med. Woch.*, July 1, 8, 1882) concludes a paper on this subject with the following deductions: 1. In spite of the alkaline reaction of the blood, it contains salts of an acid reaction, such as the monophosphate of sodium (NaH_2PO_4), which forms when the diphosphate of sodium and carbonic acid come in contact. 2. That such alkaline-reacting substances as diphosphate of sodium and bicarbonate of sodium are, theoretically, acids, since they contain an intact hydroxl which is capable of being replaced by a metal. 3. Both organic and inorganic acids are continually formed in the blood by oxidation, such as carbonic acid, sulphuric acid, phosphoric acid, and such intermediate acids as hippuric acid, uric acid, etc. 4. The changes between the acids and bases in the blood are highly complicated, as they are in other fluids, and, although the reaction of the blood is alkaline, there are many compounds of it which are of an essentially acid nature. Alkaline substances are to be found in the blood only in an empirical sense, while, theoretically, alkaline substances are not to be found there, nor indeed is it possible for them to exist in it. 5. The acids and acid salts of the blood are much more diffusible than the neutral substances, and therefore in such a mixture of salts and acids as we find in the blood, the acid molecules are more diffused. This he concludes to be very important in the formation of acid secretions by the various glands of the body. He then gives the chemical formulæ for the various transformations in the body. He concludes by saying that, since the blood brings about acid reactions, it must be acid itself. He then raises the question, What part of it produces these acid reactions? He thinks that there are many acid parts of it; that the acid substances are very minute, but are in a free state. The stronger the acid, the less of it is free, and the more of it combines with salts; the principal free acid is carbonic acid, because it is the weakest, and the only one in a gaseous form. The action of these acids is expended on all mineral and organic substances which can combine as bases, from carbonic acid to the albuminous molecules. From these causes the digestive substance, peptone or propeptone, has an acid reaction, as he promises to show in a future publication.—*New York Medical Journal*, October, 1882.

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SATURDAY, OCTOBER 21, 1882.

THE RELATION OF THE MENTAL STATE TO THE CRIMINAL RESPONSIBILITY OF SUPPOSED LUNATICS.

In the issue of the *Journal of Nervous and Mental Diseases* for July, 1882, which has just reached us, The Medical News is severely criticised because it ventures to hold opinions at variance with certain New York neurologists, including the editor of the journal above referred to. There are two counts in the indictment. One is that The News adheres to the legal definition of responsibility; the other, that it indulges in "cant," and is "unscientific." The last two expressions are used to designate the character of an editorial as compared with a paper in a local journal, in which Guiteau is solemnly affirmed to be possessed of an "affective or moral insanity"—in other words, of the form of monomania entitled "reasoning mania," or the euphemistic *primäre Verrücktheit.* We are quite willing to be separated by a broad line of demarcation from this group of mental philosophers.

With the view to render our own position clear, and at the same time to demonstrate its consistency, we must recall a few points in the Guiteau literature. Guiteau was an eccentric, who, to a singular religious training, added an incomplete education as a lawyer. As is the case with the class of "deadbeats" in general, who to a man are indisposed to steady employment, he resolved to get his living by his wits as so many of his predecessors had done. To be put into some lucrative position, where the pay is large and the duties merely nominal, was the special object of his ambition. Seeing no prospect of such a consummation from the administration then in power, he began to reflect on the important position he must occupy if he should "remove the President." No lawyer within his experience had been convicted of the vulgar crime of murder. A maniacal impulse had been, within the range of his own observation, admitted as a cause of crime, for which no punishment but temporary incarceration in an insane asylum had been inflicted. "Transitory mania," "insane impulse," and similar terms, had, in various celebrated criminal trials, been all-powerful in securing acquittal. He therefore concluded that, as a lawyer, these pleas would be sufficient with court and jury, and that although remanded to an insane asylum, there would be no difficulty in a short time in re-establishing his sanity—in proving his recovery from transitory mania. After an experience of this kind, there was no question in his mind, he would be adequately rewarded for his sacrifices by the new administration. Such, doubtless, was the process of ratiocination by which this poor wretch arrived at his determination to perpetrate the crime.

The question of Guiteau's responsibility rests entirely on the question whether he possessed sufficient power of will to restrain him from the commission of a crime which he considered would advance his interests. The successive determinations, and withdrawals from them, by which he advanced to the crime, show that if he had not had a sure conviction of his acquittal he would finally have decided not to attempt the murder. Having thus a clear conception of the nature and consequences of his act and sufficient will to restrain his inclination to commit the crime, we hold that he was a responsible being before the law.

We have, also, distinctly recognized the fact that Guiteau was not a normal person. He had the characteristics of the criminal class to which he belonged by right of birth and through the influences of a faulty education. The criminal class is abnormal. They have a mental structure whose manifestations are toward vice in its various forms, and a bodily conformation which corresponds. They are inferior, mentally and physically to the average type of the community in which they have their origin. They have misshapen heads, poor chests, and weak muscles, as a rule, and in their mental make-up, the appetites and passions dominate the reason and judgment. As respects their inclinations, they have little power of will over their actions, and when an object is much desired, their reason is powerless over the means intended to accomplish the end. Such was Guiteau. To assume that an abnormal individual of such a type, is not amenable to the ordinary responsibilities for human conduct, is to exempt the great body of the criminal class from punishment for their crimes.

Guiteau had the expansive ideas of a subject of dementia paralytica, but his schemes were not un-

reasonable. The establishment of such a paper as he proposed in Chicago, was not a chimerical scheme like running a railroad to the moon. Indeed, the best informed on this subject agree that his plan had the elements of success in it, if rightly carried out. As respects his other schemes, there was no inherent improbability in the purposes which he had in view. Contact with politicians had, doubtless, taught him how inferior in every respect were the men who had attained to high station. That he should entertain an ambitious project of this kind, was surely no evidence of delusion of the expansive type, characteristic of dementia paralytica. There was, therefore, nothing in the conduct and condition of Guiteau to separate him from the criminal class to which he belonged by inheritance of a faulty organization, and by education. He was one of them, to be judged accordingly, and not to be compared with the average type of normal human kind.

Much stress is laid on the microscopical appearances of Guiteau's brain. The gross structure did not depart in any material way from the ordinary type. Cerebral topography has not yet attained the dignity of an exact science, and hence the attempt to give importance to particular convolutions, as described by unknown experts, is not fortunate. The changes unearthed by the microscope are more important. The view of THE NEWS, in the editorial which accompanied the details of the microscopical examination, has been generally adopted, and is the view maintained in an editorial in the July number of the *Journal of Nervous and Mental Diseases*, just issued.

The initial lesions of dementia paralytica are those described in the record of the microscopical examination. How long did these exist? It must be remembered that Guiteau was an individual of the neurotic type. Now it is obvious, that the lesions of evidently recent occurrence owed their existence to the deterioration of health produced by the confinement in jail and the excitement incident to the trial. They are too recent and restricted to be referred to the period when the abnormalities of his life began to be manifest. If to these changes of the organic substratum is to be referred the impulse leading to the murder of the President, all other eccentricities of his life must also be explained by them.

THE NEWS was also criticised because it maintained the judicious doctrine that conclusions should not be reached from a mere study of *post-mortem* appearances—that the clinical history must be studied in connection with the alterations of the organic substratum. It is surprising that such a statement should require vindication. Who does not know that extensive disease of the brain may co-exist with a normal state of the intellectual functions, and that mania may not be accompanied by any recognizable evidences of cerebral disease? The late Dr. J. Hughes Bennett, for example, was found after death to have a tumor of the brain involving the cortex, and it was not alleged that he suffered from some form of mental derangement. So obvious, indeed, is the accuracy and applicability of this statement that it would be a waste of time to adduce arguments and facts in its support.

We must regard it as a fortunate circumstance that right views prevailed at last on the Guiteau trial. If the opinions of the experts for the defence had decided the contest, the most hopeless criminal might plume himself on the doctrine of irresponsibility based on the paralysis of his will. He might have a perfectly just conception of the nature of the crime and of the punishment awarded by the laws, but if he could secure experts to prove that he committed a crime because he had an insane impulse, and his will was overpowered, he might look forward to acquittal as an irresponsible lunatic.

MERCURY IN SYPHILIS.

IT is astonishing how firmly rooted and almost ineradicable a popular prejudice against any particular drug, or even against any special system of medication, becomes if judiciously fostered and encouraged. The persons who appeal to public sentiment in medical matters are usually quacks or fanatics, often ignorant, and generally unscrupulous, but by dint of constant repetition, and by generalizing from isolated and exceptional cases, and by assuming that errors once common in the profession, but long since outgrown and discarded, are still of frequent occurrence, they rarely fail to secure a zealous and numerically respectable following. Homœopathy owes most, if not all its successes, to the reaction which has taken place against the excessive dosing of the last century, and which, originating in the wider observation, and more scientific methods of modern medicine, has been sagaciously, though dishonestly, appropriated by the Hahnemannians. The anti-vaccinationists derive their only shadow of reasonable support from a few isolated and dubious cases of unpleasant sequelæ, the result of ignorance or carelessness. The indiscriminate bloodletting of our predecessors, while it unquestionably shortened many lives, has doubtless caused the loss of not a few by producing the almost total abandonment of this powerful and, when rightly applied, beneficial therapeutic measure. And in the same manner, the inordinate use of mercury, with the unnecessary production of salivation and other toxic effects of the drug, has resulted in a prejudice against it, which, nursed by homœopaths, herbalists, and advertising quacks, has survived to the present day,

and is encountered almost constantly by the practitioner.

This prejudice probably does more harm among those members of the lower social stratum who are unfortunate enough to contract syphilis, than among any other class of the community. Not accustomed by training or education to depend upon the dictum of an intelligent family physician, too poor to seek specialists, and imbued with the idea above mentioned, derived usually from the columns of the daily papers, they either fall victims to the counter-prescribing druggist, who, even if he by chance recognizes their ailment, yields readily to their request for some "vegetable" preparation, or else they are robbed and maltreated by the charlatan whose announcement of "no mercury" has happened to attract them.

All this is bad enough, and can only be remedied by the greater diffusion of knowledge among the lower classes, and by more stringent legislation, which will protect them in their ignorance against these and other unauthorized or incompetent practitioners. Unfortunately, however, this same prejudice is sometimes encountered within the ranks of our profession, and among physicians who should be better informed. It is quite time that every medical man who assumes the charge of a case of syphilis should be aware that statistics derived from a careful observation of thousands of cases, and from an impartial comparison of results obtained by different methods, show conclusively that the chief if not the only chance a syphilitic patient has of complete recovery depends upon the intelligent employment of some form of mercury, during a more or less protracted period. Perhaps no therapeutic fact is better established, certainly none is more important in its bearing on the general welfare.

The reason just mentioned—the overwhelming clinical evidence in favor of the usefulness of the drug, both in the control of the early symptoms and the prevention of later developments—is sufficient for its employment, but there are equally good theoretical reasons. The discussion of these we shall reserve for a future article, contenting ourselves for the present with reiterating the fact that, whether mercury acts as a true tonic in syphilis, directly increasing the number of the red blood cells, or as a physiological antidote of some subtle poison which it destroys, or by means of its power in promoting destructive metamorphosis and fatty degeneration, thus hastening the removal of accumulated cell products, it is unquestionable, first, that it does good, and that syphilitics to whom it has been properly administered do far better than under any other known plan of treatment; and, second, that the physician who prescribes it is not choosing the least objectionable horn of a dilemma, but is employing the most rational and scientific method known to the profession for the relief of one of the most terrible and destructive maladies.

THE SOURCE OF THE VACCINE DISEASE.

The statement made in these columns, based on the reports of Gassner, Ceely, Badcock, Putnam, of Boston, and others, that the vaccine disease, as it occurs in heifers, is modified variola has been warmly disputed. Such was the original view of Jenner, and such has been the experience of Jenner's immediate followers. Some unfortunate inoculations of variolous matter, by Dr. Martin, of Boston, and similar experiences elsewhere, threw doubts on Jenner's doctrine. Furthermore, Jenner's doctrine has been strongly opposed by Chauveau, of Lyons, Bollinger, of Germany, and Fleming, of England, who have maintained that spontaneous cowpox is a different malady from human variola. Some new observations by Dr. Voigt, of Hamburg, have resolved the doubts and re-established Jenner's authority.

As Superintendent of the Vaccine Institute, Dr. Voigt may be supposed to have some acquaintance with the subject of vaccinia, and to be able to reason aright from the simple experimental data which he has obtained. For an account of these investigations we are indebted to our contemporary, *The Medical Times and Gazette* of Sept. 23, 1882. Voigt's experiments reconcile the contradictions involved in such trials as Martin's, whose inoculations of variolous matter produced only smallpox, and the trials of Ceely, which, after much painstaking experimentation, finally produced the true vaccinia. Voigt has demonstrated that true variolous matter must be passed through at least six animals to be properly transmuted. That which is obtained by the first inoculation has all the activity nearly of the original variolous matter, but by successive transmissions through the system of the cow such a reduction in the activity of the poison (virus) is effected that the results of its inoculation correspond to those of the spontaneous vaccinia so-called. The behavior of this vaccinia corresponds to the action of the variolous poison as modified from vaccination. It is known to all the world that some cases of varioloid possess a virulence closely approximating variola, whilst others are so far modified and lessened in activity that they are scarcely ill. Now, it is obvious that the infection of heifers will have a corresponding activity. Some will have a degree of virulence closely approximating true variola, and others will have the mildness of vaccinia.

It thus happens that the researches of Voigt have supplied us with the needed data. We are now able to reaffirm the orignal position of Jenner, and

maintain that vaccinia is a modified variola—modified by transmission through the system of the cow. If true variola is inoculated, the product is but slightly inferior in activity to the original variolous poison; but by successive transmissions the virulence is gradually abated, until it attains the properties of vaccinia. If modified variolous poison is inoculated in the heifer, the product has a corresponding activity. Thus by the timely selection of the matter inoculated we can regulate the virulence to suit the conditions to be provided against. In the future we ought to be furnished with vaccine having the degree of activity just necessary to our purpose.

THE CURE OF DIABETES WITH BROMIDE OF POTASSIUM.

M. FELIZET asserts that he has a record of five cases of diabetes cured by the administration of bromide of potassium. Holding the view originally expressed by Claude Bernard, that diabetes is produced by irritation of the floor of the fourth ventricle, he used bromides to remove this morbid condition. He finds that the local irritation is arrested and the disease cured by the administration of the bromide of potassium. The cure is effected, quite irrespective of dietetic regulations, by the effect of the agent on the medulla. However, large doses kept up for a long time are necessary to effect the curative result.

On this side of the Atlantic the bromides have long been used in the treatment of diabetes. We do not know of any reports which can exhibit equal results to those achieved by Felizet. Have the doses administered been too small, not persevered in sufficiently, or given in cases too far advanced to permit repair? These are questions which will require a large number of carefully observed cases, to answer with certainty.

LIFE INSURANCE FOR MEDICAL MEN.

IF, as we believe, life insurance is a wise provision for most men, for doctors it is especially wise. Life, which is uncertain at the best, is peculiarly uncertain for our profession from its very nature. If he whose house burns down uninsured is accounted careless, how much more should he be whose life is suddenly terminated without any provision for the future; and with this difference in favor of life insurance, that everybody must die, but not everybody's house must burn down.

Moreover very few doctors ever accumulate a fortune. With ordinary ability and ordinary faithfulness, a doctor is sure to obtain an income which will give him and his family a good support, an income which is almost as certain as a salary. But it is rarely large enough for him to lay by any considerable sum from year to year. If he live to old age, or if his income be exceptional, or if he engage successfully in other business or in speculation, he may become rich. But it is expressly to provide against the possibility of poverty following early death, or failure in business or speculation, that life insurance is valuable. As medical examiners, a very large number of the profession are familiar with the wisdom of insurance, and with signal instances of its benefits. As a rule, the medical examiners are, we believe, insured, as indeed consistency would require. But we fear that only a small percentage of the remainder of the profession have so provided for their families.

It is often objected that life insurance is so uncertain that the risk of dying early is less than the risk of losing all one's investments. But after a careful survey of all the life insurance companies in this country, the *Ledger* has shown that only about one per cent. of all the insurances effected have been lost, whether through the ordinary casualties of business, bad judgment, fraud, theft, etc., all combined—a percentage less, we imagine, than that which is true of most other forms of business, and, of course, in recommending insurance, we take it for granted that the insured will use proper wisdom and only invest in well-established companies whose strength is a guarantee of payment in, it may be, a far distant future.

WHILE we heartily advocate athletic sports among college men, we are glad to see that the Harvard College authorities are about to undertake the regulation of this matter of physical exercise, in order to give it its due development, but yet not to allow it to encroach on the studies of the college course; that is to say, the proper business of the young men.

They propose to limit the students to athletic sports as amateurs and not as "professionals," a position they have been rapidly drifting into of late. With the assistance of the faculties of other colleges they propose, therefore, to prohibit their baseball clubs from playing with professional clubs. They will retain the present excellent supervision of the gymnasium which Dr. Sargent exercises, and will add to it some one to see that the students take proper care of themselves in their sports and that they do not go to excess. This latter person will take the place of the professional college "trainer," whom they have dismissed.

The Yale faculty, however, have declined to join Harvard as to the baseball nines.

OUR esteemed contemporary, the *Lancet*, we notice, in quoting from our columns lately, transforms our friend, Dr. Formad, into Dr. Furniss, and still more curiously adds a monarchial halo to our staid old College of Physicians by an allusion to the *Royal* College of Physicians of Philadelphia.

REVIEWS.

A System of Human Anatomy, Including its Medical and Surgical Relations. By Harrison Allen, M.D. With 109 plates and 250 wood-cuts, drawn by Herman Faber. Section I., Histology, by E. O. Shakespeare, M.D. Section II., Bones and Joints. 4to. pp. 241. Philadelphia: H. C. Lea's Son & Co., 1882.

A book like this is an ideal rarely realized. It will do, we have no doubt, what its accomplished author hopes, "make anatomy—what unfortunately it rarely is—an *interesting study*." Dry bones are of the driest when merely the bare facts about them are stated. But the value of anatomy to the medical man as distinguished from the scientist, like that of an observation, "lies in the application."

The "sauce piquante" which whets the appetite, is found in the explanation which anatomy gives of the facts of disease in its clinical relations.

It has long been an opprobrium to America that our anatomical text-books were all foreign. But this work will remove the stigma. It is a mine of wealth in the information it gives. It differs from all preceding anatomies in its scope, and is, we believe, a vast improvement upon them all. While the anatomical descriptions are full, they are not prolix, and they avoid many of the details which, though of scientific value, are worthless to the doctor. Yet the variations of the parts will be sufficiently described. But the chief novelty about the book, and really one of the greatest needs in anatomy, is the extension of the text to cover not only anatomical descriptions, but the uses of anatomy in studying disease. This is attained both by stating the narrower topographical relations and also the wider clinical relations of more remote parts, by giving a brief account of the uses of the various organs; and by quoting cases which illustrate the "localization of diseased action." In future parts there will be sections on monstrosities, on the method of conducting *post-mortem* examinations, and on superficial anatomy as a guide to the positon of the deeper parts.

Dr. Shakespeare has furnished the section on histology, and it is well done. We regret however, to see nearly all the illustrations are copies, and that the magnifying power, instead of being stated exactly, is indefinitely described as "high," "low," or "medium."

We have not space to enter into any details of the section on the bones and joints. Suffice it to say that it shows on every page evidences of Dr. Allen's wide learning and judicious selection of material, embarrassing by its very richness. The style is in general succinct and clear, but sometimes from its brevity it lacks clearness, as in part of the description of the movements of the elbow-joint. We regret to observe the use of "diagnose," for "diagnosticate," which is the proper, and indeed the only proper, English word.

Second editions can only be corrected by the discovery of faults in the first. Hence we take the liberty to point out a few minor errors. Thus on page 114, Holmes Coote's name, and on page 140 Dr. Mütter's, are mispelled, and so on page 230 with Gemelli. On page 117 the coronoid process of the ulna becomes coracoid. On page 149 the last two words of the last paragraph are incorrect. In Plate XXXIII., while it is not incorrect to print the name gastroc-nemius, it would have suggested its Greek origin much better had it been gastrocnemius. So too in the text the foramina of the sphenoid bone are called by their English names, while in the plates the Latin are used, a confusing thing to a beginner. The foramen spinosum is not shown in the plate.

But these are such small faults in so fine a work that we scarcely would dare to call the author's attention to them, were it not that we wish it the greatest possible success, and, therefore, the greatest possible perfection.

The plates are beautiful specimens of work by one who long since won a deserved reputation as an artist.

SOCIETY PROCEEDINGS.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, October 4, 1882.

W. S. W. Ruschenberger, M.D., President, in the Chair.

Dr. Arthur V. Meigs read a paper entitled

CLINICAL OBSERVATIONS ON ALBUMINURIA, BASED UPON A STUDY OF SIXTY-TWO CASES SEEN IN PRIVATE PRACTICE.[1]

During the last eight or nine years, he said, it has been my habit to keep a record of the examinations of urine I have made. That record now contains notes of between sixteen and seventeen hundred examinations, and a study of it recalls to my mind, with more or less distinctness, the histories of sixty-two persons suffering with albuminuria. In a number of instances I have been able to follow cases for a series of years, from this circumstance. In particular, the number of years the patients were under observation, I have been enabled to satisfy myself of some clinical facts, particularly in reference to the diagnosis and prognosis in this complaint, which I hope may be worthy of your attention.

That which has most impressed me, is the impossibility of making a prognosis, with any degree of exactitude in most cases of Bright's disease. Of course, in the plainer ones, the decision is easy; if asked an opinion in a case with a large; or even moderate amount, of albumen in the urine, with increasing heart failure, and evident decline of strength and vitality, with headaches and the peculiar white complexion of the disease, it is easy to prophecy that such a person will not live long, and the prophecy, nine times in ten, comes true; if called, however, to decide questions of the future for a young man of thirty-two or three, previously well, but for some weeks complaining of headaches, malaise, and boils, and then examination of the urine shows a slight amount of albumen, granular and hyaline casts, and abundance of rather small oxalates, the question of the future is not so easily decided. I have seen such cases go on pretty well for a few months, then suddenly have convulsions, and die in a few days. Again, persons presenting identical symptoms, after being sick a few weeks or months, entirely recover. To my mind it is impossible, in the present state of our knowledge, to anticipate the future, and the patient should always have the benefit of the doubt, and be shown the brighter, rather than the darker side of the picture.

I know of three persons in whose urine I found albumen and tube-casts, accompanied with all the other signs of Bright's disease more than eight years ago, who are yet alive. One is a lawyer in easy circumstances, who was taken sick in January, 1874, when he was fifty-six years of age, with what appeared to be a bad cold, but he had extreme dyspnœa and exces-

[1] Many of these cases occurred in the practice of my father, Dr. J. Forsyth Meigs, but a large majority of them I saw from time to time myself.

sive restlessness and nervousness, although he is usually very self-composed. The dyspnœa seemed greater than could be accounted for by the extent of disease of the lungs, which amounted only to moderate bronchitis; the urine being examined, it was found to contain a trace of albumen, some blood, and tube casts. It should be said that this man had suffered in previous years with attacks of gravel,, when he would pass blood, and small calculi. Nearly four years afterwards, there was still a trace of albumen in the urine, and granular casts, showing that the condition was by no means merely temporary. Ever since, he is liable to severe cold, and always suffers more than common with oppression, although it usually takes the form of a common coryza. He is now sixty-four years old and an unusually young-looking, active man of his years.

In contrast with this case, a woman of about sixty was seized in the night, having gone to bed apparently in her usual health, with an attack of oppression, and what her physician called congestion of the lungs, so violent that it was thought she would die at once; she, however, rallied by morning. An examination of the urine, made a few days afterwards, revealed the presence of a slight trace of albumen and casts. Four months afterwards there was still a trace of albumen in the urine, and granular and fatty casts, although she was up and about as usual, being merely very weak, having no apparently urgent renal symptoms. At a later examination, the trace of albumen was still found, but no casts. About seven months from the first discovery of the disease, she had another violent attack of oppression, and died in a few hours. Now what are the points to distinguish these two cases? One died after a few months' illness, and the other, having had apparently the same complaint and almost identical symptoms, is, after eight years and a half, still alive, and more, apparently unusually well for his time of life.

In December, 1874, a lawyer in full practice, then about fifty-four years of age, was taken with an attack of acute catarrhal pneumonia, and was also found to have albumen and tube-casts in the urine. He was sick all that winter and the following spring, the urine constantly containing albumen, and granular and hyaline casts. The albumen and casts were found in the urine during 1875 and 1876, and part of 1877. On May 2, 1877, about two and a half years from the onset of the disease, there was at last no albumen found, and the microscope revealed nothing abnormal. Since that time, although the urine was examined in 1878, 1880, 1881, and 1882, there has never been found either albumen or tube-casts, and the patient, now a man sixty-five years of age, enjoys very good health, having had no return of the disease in more than five years.

The third case is a woman, whose father, brother, and two sisters have died of the same disease. She has had a trace of albumen and hyaline and granular casts in her urine since March, 1874, when she was about thirty-one years of age. I have records of this condition in 1874, 1876, 1879, 1880, 1881, 1882. In February last she caught cold, and seemed for some time upon the verge of a severe renal attack, having coryza so that her nose was almost entirely stopped, and there were bronchial râles heard in the chest, but an amount of dyspnœa seemingly out of all proportion to the extent of the disease that could be detected by physical exploration; the albumen in the urine also increased very much in quantity In some weeks, however, she recovered, and this summer seemed in her usual health.

The father of this patient had a severe attack of hepatic colic, and passed several gall-stones in 1877, but afterwards he continued in pretty fair health for some time. On May 9, 1879, a trace of albumen was found in the urine; this continued to be present at succeeding examinations, but no tube-casts were found at this time, or afterwards, although they were carefully sought for, and about December, 1880, eighteen months from the original discovery of his disease, he succumbed to an attack of uræmic convulsions, being seventy years of age. A son and two daughters of this man died of the same disease some years before. The son, after having had dropsy, lived for several years in tolerable comfort, until a severe cold proved fatal. With the history of this son, and one of the daughters, I am not familiar, but the third one I saw, and she died in convulsions. The condition of this person before her final illness, which lasted only a few days, was in no way different from that of her sister, who is still living, and has had the disease for nearly nine years, and the attack which the surviving one had last March, was exactly like those of which I have seen other people die.

I maintain, therefore, that with our present knowledge it is impossible, in doubtful cases, to prognosticate what the result will be, and that for the patient and his family, as well as for the credit of our profession, we should be very guarded in our prognosis. The presence of albumen and tube-casts in the urine, even when found for so long a time as two years continually, is not, as shown by one of the histories I have detailed, a reason why we should necessarily give a fatal prognosis, and this is particularly the case when the patient is a person past middle life. In the face of such authorities as Beale and Grainger Stewart, many practitioners think the microscopists can better judge (by examining the urine) of the stage and form of Bright's disease they have to deal with than they themselves can. Grainger Stewart is emphatic upon this subject. On page 271 of the American edition of his work on *Bright's Disease*, he says: "Some authors attach great importance to the tube-casts. They are of undoubted value in establishing the existence of Bright's disease, considered generically, but they afford comparatively little assistance in the differential diagnosis of the different forms. Any form of tube-cast may occur in any form of the disease, and at almost any stage. Indeed, all the leading varieties may occur simultaneously in one case." Beale says (*Kidney Diseases, Urinary Deposits, and Calculus Disorders*): "Dr. Basham thinks he can judge of the stage of Bright's disease by the character of the urinary sediment. I wish I could agree with him in this conclusion. The more carefully the matter is investigated the more convinced am I that it is unsafe in many cases to attempt to draw inferences as to the stage of the disease from the character of the urinary sediment only. Nothing but a careful consideration of every point connected with the case will enable us to arrive at a general conclusion concerning the state of the disease. . . . Dr. Basham says: 'The most untractable and hopeless form of *morbus Brightii* is that represented by the presence of the fatty or oily cast.' This statement requires some qualification, for although it is quite true that some of these cases are terribly and rapidly fatal, it must be admitted that some live for twenty years and more and die at last of other disorders." With regard to the presence of oily casts in the urine, and it is upon their discovery that microscopists found their gravest prognosis, Dr. George Johnson says (*Lectures on Bright's Disease*, New York, 1874): "The appearance of oily casts and cells excites less alarm now than it formerly did. It indicates that in certain parts of the kidney the secreting cells and inflammatory exudations are undergoing fatty transformation; but I have seen many cases of complete recovery after oily casts and cells in great numbers had appeared in the urine continuously for many weeks."

A very common symptom of renal disease, and one upon which there is not very much stress laid in the majority of books upon the subject, is dyspnœa. Whenever a patient is found suffering with dyspnœa, and particularly if there is great nervousness, and loss of self-control, and anxiety, with no other fully sufficient cause for its existence, suspicion of renal disease should be aroused, and the urine examined, even if there are no other symptoms whatever pointing toward a lesion of the kidney. These attacks of dyspnœa frequently come on with great suddenness in persons who have not considered themselves sick, and such attacks are often quite rapidly fatal. This condition has been described as renal asthma, but I believe it much more common than is usually supposed. Another symptom of Bright's disease which I have frequently noticed and have never heard described, is coryza, of such a character that it gives rise to very much greater distress than any ordinary cold in the head; with this there is not much discharge from the nose, but the patient complains that he can get little or no air, except through the mouth, this being accompanied with excessive oppression, much more than the condition would seem to warrant. This symptom was first called to my attention by my father, Dr. J. Forsyth Meigs, in a case we saw together, about nine years ago.

The suddenness of the onset, or perhaps it would be more correct to say, of the discovery of the existence of this disease, is often very great. In one instance, I knew of a young man, previously supposed healthy, seized with a convulsion while sitting at the supper table, after he had finished his day's labor as a wagon-driver; this was followed by others, and the case ended fatally in a few days. In a second case, I was called upon by a young woman to explain a swelling of the vulva, with which she was suffering; examination of the urine revealed the existence of a large amount of albumen; this continued for some time, but after prolonged use of iron, her condition improved, and she had apparently fair health, until about two years later she became pregnant, and died within a few days after the birth of her child. In a third case, a man, fifty-four years of age, was seized in the night with epistaxis, a thing he had not had since he was a boy; examination of the urine revealed the cause, and about six weeks later he was found one morning insensible in the bath-tub; examination showed that he had right hemiplegia; a vessel in the brain had ruptured, presumably from the same degeneration which six weeks earlier had caused the nose to bleed. On the other hand, the insidious nature of this disease and of its onset is a matter of such common report that I will not weary you with any cases illustrative of this fact.

The existence of oxaluria, or of uric acid lithiasis, is a prolific source of mischief to the kidney. The deposit of oxalates, or uric acid in the kidney, and its passage outwards, occurs most frequently in persons who are large eaters, living an inert life and taking but little exercise. Such people are common among the rich in large cities, and I have seldom failed to find tube-casts in the urine of any one who passed gravel for any length of time, whether oxalates, or uric acid, even if the calculi were microscopic in size, and this, commonly before any albumen was to be found. Later, if there is any considerable amount of gravel passed, albumen and blood will be found in the urine. If the attacks of gravel occur often, they are apt, at last, to be followed by Bright's disease, directly caused, probably, by the mechanical irritation of the lining membrane of the tubules of the kidney, by the sharp edges of the minute calculi passing through them.

It cannot be proved by statistics, and yet I think there is strong ground for believing, that the proportion of deaths caused by affections of the kidney is greatly on the increase. The tendency of modern life seems to be such, that a larger number of deaths are caused by degenerative processes, and less by acute disorders. In former times, children were less delicately reared, and a larger proportion of the frailer ones probably died of exposure and want of care; now, beginning at childhood and continuing up to old age, we are much more careful to avoid exposure, and are more self-indulgent, at least, as far as our bodies are concerned. Who, in modern times, except the professional athletes, would undertake the physical labors of the Emperor Charles V. of Germany, of whom Motley says, that he was able to tell, at a time when all journeys were made on horseback or by boat, "of his nine expeditions into Germany, six to Spain, seven to Italy, four to France, ten to the Netherlands, two to England, as many to Africa, and of his eleven voyages by sea!" Nowadays the majority of city men are in their places of business all day, and take but little exercise, eating as much, and as rich food, as in former times, and drinking not little withal. The natural and necessary consequence follows, that after years of this kind of life, the excretory organs degenerate; first the kidney, which is the common sewer of the body, and, like the heart, has to do continual work, from the hour of birth until the hour of death. It is a common thing in modern life to see a man naturally robust and gifted with a large appetite, become more inert as years go by, when he will gradually give up his active exercise, until finally he takes none; still the eating and drinking go on, and he becomes fat and sluggish; finally he loses health, and then examination shows that degeneration is beginning in the kidney. I could instance several cases of the kind but my space will not allow me.

The drift of my paper has been to try to establish, that we should, in all ordinary cases of albuminuria, be very guarded in our prognosis, except when it is self-evident that the case must be rapidly fatal. I have now under my observation, fifteen persons, seventeen, if I count two who have albuminuria alternating or parallel with, diabetes mellitus, who have been suffering with this complaint for a greater or less length of time. With three of them, the disease began nearly nine years ago, and they either have it now, or have entirely recovered from it, after more than two years continual duration; yet in regard to no one of them do I feel able, even in my own mind, to guess, much less to formulate an opinion, as to how much longer they may live. There are absolutely no data, if such cases are considered in the light of the experience of the sixty-two I shall mention, upon which to found a positive prognosis.

Another observation I have made, is in regard to the deaths of very old people. We are all agreed I presume, that when a very old person dies, and we report the death as one of old age, it is because we are unable to put the finger upon the exact part of the old and worn out machinery, that at last refuses to work any longer, and thereby causes all the rest of the mechanism to stop. This direct cause, if sought for, will frequently be found in the kidney. To examine the urine is not always a thing that strikes us, particularly when absolutely no symptoms appear to point toward kidney disease. I have seen a number of instances, in which old people seemed to be fading out, as they often do, yet have felt entirely unable to explain to myself any direct cause for the failure, until the urine was examined, when there was found albumen, with granular and hyaline casts, and sometimes a few blood corpuscles. A careful inquiry would perhaps reveal the fact, that the amount of urine passed was very small, all this without any other symptom to point toward kidney disease; at the same time, the failure of the patient being very gentle and gradual;

or else, as not infrequently has happened, senile delirium existed, either violent or mild in type, followed at last by death.

In the whole sixty-two cases, which I will now summarize collectively, there have occurred twenty-six deaths, thirty-four are to my knowledge still living, some in better and some in worse health, and of two I have lost sight.

Five were cases of ordinary acute desquamative nephritis, with the occurrence of one death, and four recoveries. In one instance, a child, there were two attacks, two years apart, the first being unaccounted for, the second following scarlet fever; the second case occurred after scarlet fever; the third after diphtheria; the fourth was in a young man apparently healthy previously, and now in good health, his attack only lasted a short time; the fifth and fatal case was in a boy of about fifteen years of age, and came on while he was at boarding school, the onset being insidious, and the disease progressing from bad to worse, until death occurred.

Four cases seemed to be caused by the passing of gravel, principally oxalates. These people are still all living, although they have had albumen and casts present in the urine, on and off, for varying lengths of time; two of them for six years past, one for seven years, and the fourth has had two attacks of nephritic colic, about a year apart; on each occasion, albumen and granular casts, uric acid, and blood corpuscles were found in the urine.

Twenty-two cases I class as of ordinary Bright's disease, there being probably contracted kidney in the majority of instances, and of them, fourteen are dead. I made no post-mortem examination in any one of these cases. In most of them (seventeen of the twenty-two) the onset was insidious, there being no illness to mark the beginning of the disease; in one, the patient was seized with a convulsion at the supper-table, having been supposed previously to be in good health; in a second, there was a violent attack of congestion of the lungs, with terrible dyspnœa during the night, the patient, a woman, having gone to bed thinking herself in good health; in a third, there were dyspnœa and congestion of the lungs occurring suddenly; in a fourth the condition of the kidneys was discovered concurrently with an attack of catarrhal pneumonia; a fifth was a man who had had attacks of nephritic colic. He had a violent attack of congestion of the lungs, with bronchitis and dyspnœa, and was found to have albumen and casts in the urine, which condition continued, on and off, for four years; he is now in apparently good health, although the first attack was nearly nine years ago. Of these twenty-two cases, two were in one family, one soon dying, and of the other, I have lost sight; two in another family, one dying and the other, I think, being still alive, although the disease was discovered three years ago; five cases occurred in another family, the father, son, and three daughters. The father and mother of this family had ten living children, five reaching adult life, one died of consumption, and the other three, and the father, of Bright's disease, the surviving daughter has had the disease for nearly nine years. In another family there were three cases, all women; one died, having had uræmic convulsions, and the other two still live, both having had the disease for about three years. A brother has now cancer of the rectum. The mother is still alive, and although seventy-four, enjoys good health. The father died at quite an advanced age, but I do not know of what disease.

The next twenty-two cases I must classify as unaccountable; eighteen of them occurred in persons over sixty years of age, and the other four were well on in life; one was over ninety, three over eighty, and two over seventy years of age. Of these people, only five are dead, and of the five fatal cases, one was the man over ninety, two were over eighty, a fourth was seventy-seven, and the fifth sixty-seven.

The next four cases were of people advanced in life, and they died of general break-down, having in three instances concurrent disease of the heart and kidneys, with implication of the lungs, and the fourth had renal and brain disease.

In two instances there has been albuminuria with diabetes mellitus; in one sugar was discovered in the urine six, and in the other four, years ago. Since then, there has been sometimes sugar, and at others albumen; at times both at once in the urine of these two women. In neither instance have tube-casts been found. I mention these two cases in a paper upon albuminuria, because both have frequently had albumen in the urine, and I confess myself unable to explain the phenomenon, the quite frequent presence of albumen in the urine, without tube-casts, or any other sign of renal disease, and yet I can hardly believe the albumen to be merely due to cystitis, for if that were so, it should be constantly present.

In one instance I have followed for four years the history of a man who drinks to excess. At the beginning of, and for a time before, his attacks of delirium tremens, while he is consuming alcohol freely, he often has bloody urine, which will contain tube-casts of all varieties at different times, fatty, hyaline, and granular. When he ceases his consumption of alcohol, as he has quite frequently done for two or three months at a time, the urine becomes normal, as far as chemical tests and microscopic examinations will reveal its condition. In the light of this case, how can we believe that the abuse of alcohol does not produce renal degenerations? Is not this man sure to die of Bright's disease, if he continues his indulgence in alcohol?

Another case was a man over fifty years of age, who was seized with rheumatism; he progressed badly, and was much more sick than the amount of rheumatism would seem to warrant, and at last, after about three weeks, died; having obstruction of the bowel, and inflammation of the kidneys, as shown by the presence of albumen and tube-casts in the urine; also hydrothorax and extreme stupor, which seemed uræmic. This man had had an attack of influenza about three or four weeks previous to his fatal illness. Can there be any connection between the severe influenza and the rheumatism, and renal inflammation and obstruction of the bowel, of which this patient died?

The last case I will mention was a boy, who died very suddenly of congestion of the lungs, probably the first stage of pneumonia. A trace of albumen and granular casts were found in his urine, which was obtained a short time before death. This boy was about sixteen years of age, and did not seem much sick on the afternoon of one day, being up and dressed, the next morning dying, in a state of maniacal delirium, with his lungs extremely congested. There was, unfortunately, no post-mortem examination made. This case would seem one in which the pulmonary affection was primary, and yet it might be that he had a latent contracting kidney.

There has been much said of later years about kidney disease without the presence of tube-casts in the urine, and of the presence of casts without albumen. I may say that I have frequently found tube-casts in the urine when the most careful chemical examination failed to detect any albumen, and *vice versa*, have failed to find any casts at all, when the event proved the existence of renal disease.

The subject of treatment I have not even mentioned in my paper, although much might be said about it, because I have already trespassed too long upon your time.

In conclusion, I will briefly recapitulate the points which it has been my endeavor in this paper to prove.

First, that in no ordinary, uncomplicated case of Bright's disease, should a prognosis of speedy death, or even of incurable disease, be given, for I have related cases in which the disease was chronic, lasting more than two years, and which ended in complete recovery, and others, in which the person affected has lived nearly nine years.

Second, that dyspnœa, usually taking the form of renal asthma, is much more common than is usually supposed, and when properly appreciated, is a valuable diagnostic sign of the disease; also that severe coryza is a complication or accompaniment, and has a diagnostic value.

Third, that Bright's disease, as a cause of death, is on the increase.

Fourth, that it is a very common cause of the deaths of old people, probably being the direct cause in many deaths reported as of old age.

Fifth, that the passage of gravel, even when microscopic in size, but particularly if large enough to cause nephritic colic, is a prolific cause of the disease.

Sixth, that the occurrence of tube-casts in the urine, without, or in advance of, the presence of albumen, is very common, and *vice versa*, persons may die of Bright's disease, and the most careful examination fail to show any tube-casts, although there may be albumen constantly present in the urine.

Seventh, that the abuse of alcohol is certainly a cause of kidney disease, as proved by the case I have related, in which it has, again and again, caused hemorrhage from the kidney, with the temporary presence of albumen and tube-casts in the urine, disappearing again with the cessation of its consumption.

Dr. R. P. Harris said that he had observed, in cases of albuminuria, vomiting as a frequent symptom, and regarded it of diagnostic importance.

Dr. H. C. Wood asked, with regard to those cases of Bright's disease, in which neither albumen nor tube-casts were found in the urine on examination. In a case of this character, coming under his observation, he had based the diagnosis on the low specific gravity, and the diminished secretion of the urine.

Dr. J. Solis Cohen said he had long been aware of some special association between laryngeal and renal diseases, and had attributed this to disturbance of circulation at the base of the brain, affecting both the renal nerves and the pneumogastric.

Dr. James Tyson said the subject of albuminuria was so extensive and presented so many phases that one is at a loss where to commence in its discussion; but he believed Dr. Meigs quite right in saying that the more one studies it the more unwilling one is to interpret it dogmatically. He thought, however, that there are some cases in which a quite positive position can be taken. To illustrate: with contracted kidney or interstitial nephritis, he thought the presence of hypertrophy of the heart a symptom which justified an unfavorable prognosis, while in cases of contracted kidney in which this stage has not been reached, it was most difficult to approximate the time of termination. He had seen persons apparently at the point of death recover so far as to be able to resume their occupations, while others apparently in the vigor of health succumbed in a few days with uræmic symptoms. Generally, death soon succeeds upon the occurrence of uræmic convulsions, and Dr. T. could not recall a case in which they were not followed by an early death in this form of kidney disease.

Again in cases of chronic parenchymatous nephritis where there are large numbers of highly fatty cells, oil casts, and free oil drops, while the patient exhibits a pallid whiteness which suggests the almost total absence of red-blood corpuscles, recovery is scarcely possible. On the other hand, he had seen many cases in which oil-casts were in the urine, recover completely.

Dr. Tyson could not, however, accept the quotation by Dr. Meigs, from Grainger Stewart, as expressing the exact truth. It is not strictly true that every form of cast may be found in every form of Bright's disease. Blood casts are not found in uncomplicated chronic Bright's disease; and, although it is common to find hyaline casts containing a few oil drops in chronically contracted kidney, highly fatty casts are never present. He did not desire to be considered as saying that casts are of conclusive value in diagnosis, but in many cases they are of great assistance. It is more particularly in the subacute and chronic forms of parenchymatous nephritis and amyloid disease that we have the same varieties of casts present, and find them consequently of little value in diagnosis.

Much is said now-a-days of albuminuria in health. But Dr. T. thought that however complete may be the absence of symptoms accompanying an albuminuria, he could not consider the kidney from which filtered a continuous albuminous urine to be in a normal state.

With regard to the question of Dr. Wood, he thought that, even throwing out those cases in which albumen and casts are overlooked by the observer in consequence of carelessness, haste, or inexperience, it was possible that there might be Bright's disease without either albumen or casts. But he had never met an instance. In such a case he would consider the symptom mentioned by Dr. Wood—low specific gravity along with a greatly diminished urine—one of the most conclusive possible.

Dr. Bruen called attention to the prognosis of catarrhal diseases of the kidney—classed as Bright's diseases. When these forms of renal disease were associated with severe catarrhal lesions in the lungs, the renal disease accelerated the fatal issue.

But sometimes catarrhal lesions were a single severe expression of general catarrhal inflammation—sometimes of local catarrhs. The etiology of these forms of renal disease offers most favorable vantage to the physician for basing his prognosis. The prognosis is good in these cases—when the heart is hypertrophied and an adequate circulation is maintained—bad in proportion to advance of cardiac mischief. Prognosis then should be made from six months to six months. In *Guy's Hospital Reports* for 1881, are to be found a number of cases of Bright's diseases without albuminuria, by Mahomed. Dr. Bruen called Dr. Wood's attention to these cases, and expressed a belief that a close study of the sphygmograph tracings would be of great assistance. Further the character of the cardiac sounds indicate the strength of the heart. This arterial fibrosis, with cardiac hypertrophy, accompanies most markedly the forms of Bright's disease in which the interstitial changes predominate over the tubular. The urine in these cases though it may not exhibit albumen will often exhibit casts, mostly hyaline, slightly granular.

Dr. Bruen called attention to the value of the shallow cell in the examination of the urine, when the casts are but few. This method is highly recommended by Dr. Johnson, and Dr. Bruen desired to elicit the experience of others as to the necessity of examining urine in a small cell, in all doubtful cases when casts might be supposed to be at a minimum.

Dr. Geo. C. Harlan spoke of the great importance of an examination of the eye-ground in Bright's disease, and of its value in a diagnostic point of view.

Dr. Arthur V. Meigs, in closing the discussion, said that his paper was a purely clinical one, and was intended merely to record observations made in study-

ing the sixty-two cases of albuminuria mentioned. It would self-evidently be impossible, in so short a compass, to attempt to give even a *résumé*, which would be exhaustive of so vast a subject as the one under discussion. With regard to the observation of Dr. Wood, that Bright's disease might exist without either albumen or tube-casts being present in the urine, he thought it a fact which could not be denied. As to the possibility of making a diagnosis under the circumstances, the observation of Dr. Wood that a small amount of urine of low specific gravity passed continuously for a length of time, and that of Dr. Harlan that the ophthalmoscope might sometimes lead us to a positive conclusion, seemed at present our best, if not only, means of making such a diagnosis. Vomiting is a common accompaniment or symptom of renal disease. He agreed entirely with Dr. Tyson, that in a certain class of cases of Bright's disease a very exact diagnosis was possible, and a prognosis too, but in other instances, particularly in patients advanced in life, and with the disease somewhat latent, even an approximation of the future duration of life was impossible.

Dr. Addinell Hewson presented the

Report of a Case of Cervical Lymphadenoma Treated by the Application of Earth.

He said: my reason specially for wishing to present the patient to-night is not only to describe the symptoms of this interesting disease but to show that it has been more than arrested in its course—that it is actually undergoing positive dissipation, and that, too, by what has alone been used with it from the very first of my treatment.

The following is the history:

P. M., aged 53 years, was born in Ireland, of healthy parents, who brought him to this country when he was over 17 years of age. His father died not long since, aged 72 years. His mother is still alive, but has always been, since her earliest recollections, a sufferer with arthritic rheumatism. There is no tendency on either side of the family to phthisis. He had always, prior to the first manifestations of his disease, enjoyed most excellent health, and by a long practical experience in machine shops, foundries and in the working of steam engines, he was well qualified to fill the post of an engineer, which he obtained at Girard College in 1877, and has faithfully filled ever since. There, as I have been informed, he has displayed zeal and industry not only in his own duties, properly speaking, but by making himself always useful whenever occasion might occur. Thus on the occasion of the preparation of the meals of the college, he was not only watching the conditions of the engines and boilers of its grand culinary arrangements, but was always willing and ready to assist any one with whom he might there be brought in contact. So, on a summons, he was prompt to go from one of the very hot rooms of the kitchen to one of an equally opposite temperature, in the refrigerator, large rooms made as cold as ice could make them, in which meats and other articles of food were perfectly preserved.

It was after one of these exposures that he was seized with the first symptoms of cervical lymphadenoma. Then two weeks before Christmas 1880, one year and nine months ago, he was long enough in one of these refrigerators to get all his clothing thoroughly wet and his body so chilled that he became prostrated. This exposure was followed by a general reaction and a pain in the right supra-clavicular fossa. These chills and fevers were constantly recurring for several days, and those of the second period of twenty-four hours were specially characterized by a kindred pain in the left supra-clavicular fossa. The pains of both sides subsequently extended up to the occiput and from there down the spinal column, becoming more intense at its fundamental end. With the latter there was numbness or partial want of sensation not only of his lower extremities, but all over, except, as he says, in his hands. His throat was from the first sore and his speech about a year ago became so indistinct as not to be readily understood. Three months later his hearing, on the left side, was absent, and five months later he became partially deaf in the right, not being able to hear then the ticking of a watch beyond twelve inches.

The temperature of the neck was at first highest on the left side, and continued so until last Christmas when it became, by far, the highest on the right side. He had then been treated from the first for sore throat, by gargles and medicines, anodynes, alteratives, and the like. These he continued up to the time of his coming to me. During the period to which I have referred he had both of his ears inflated by the Eustachian catheter and gum bag, by an attendant at the clinic of one of our public charities. This inflation was followed by much pain, especially in the left ear, which continued up to the time of my first seeing him, when hearing in that ear was absent. I then tested the hearing of the right ear by an English lever watch, and so showed it to be no more than eight inches.

When I first saw him, June 21, 1882, he presented a most singular appearance with his occiput and chin both drawn downwards and forwards, and his shoulders upwards, inwards, and forwards. His face was the very picture of distress. The room in which he was had, in the little time he had to await my coming there, became so impregnated by the smell from him as to make it stink like an opossum's kennel. This was still perceptible there more than an hour after his leaving the room. The patient has always admitted that this fetor came constantly from him and was often the subject of comment or of complaint by those about him. A close inspection at the first soon satisfied me that it was from the skin of the sides of the neck and from there only that the whole stench came. This was demonstrated as a fact beyond all cavil or doubt, by its complete dissipation in a few days by the dressings I used.

This poor fellow was sitting astride of a chair in the room, when I went in, gasping for breath, with a loud, irregular, stridulous respiration, whilst he supported his head by both his hands. By considerable effort he made me understand that his distresses all came from the tumors on his neck which he had all ready to uncover and show to me. Whilst he was doing so, however, I had walked partially around him, and got my first full view of his neck from behind. It there looked as if he had two necks attached to the base of his head. The growths on the right side, projecting beyond the line of the outer border of the trapezius there for a width equal to that of the whole neck, and the excrescences on the left side, produced this appearance. He then managed to tell me that his sufferings were incessant, that he had not been able, for a long time, to maintain his head when erect without the aid of a hand or some other means of support, except for a few moments; and that he could not, from a very early date of his troubles, lie down and sleep in any position over a period of twenty minutes, as he was always then startled by a feeling of impending suffocation.

The urine possessed a sp. gr. for that of the evening of 1017, and for that of the morning of 1021. Microscopic examination revealed the presence of phosphates. The quantity of urine voided in twenty hours was, according to his statement, about normal.

His pulse was decidedly frequent (102) and feeble, evidently somewhat so disturbed then by nervous

agitation. His respirations were likewise disturbed, and the impulse of his heart was feeble and diffused.

The mucous membranes of his lips, mouth, and tongue were very red and swollen. This condition being most marked around the gums and being associated with positive looseness of the teeth, at once suggested the probability of pytalism being present. The patient stated that he could not masticate any solid food or swallow any hot liquid.

His tonsils and uvula, as also his half arches and walls of the pharynx, were likewise much swollen and reddened, and efforts to inflate the middle ears by forced inspirations and expirations on his part whilst the mouth and nostrils were held tightly closed, showed that the Eustachian tubes were both completely obstructed, and although he was then free from all signs of catarrh in either antra and forehead, it was evident that the obstructions in the Eustachian tubes were, like those of the external, due to the immense size of the tumor on the outside of the neck.

The contour of these tumefactions was limited essentially to the lateral regions of the neck. Starting in the supra-clavicular fossa on either side they were greatest at first, posteriorly, along the planes of the trapezii muscles. Those muscles were, on both sides, much stretched and pressed backwards, and were very markedly defined by this backward prominence of the tumor.

The tumor, then, on both sides extended high up behind the ear, covering both mastoid prominences, but did not extend further back there than the outer attachments of the trapezii to the occiput. In front of the ears they went up to the zygomatic processes of the malar bones projecting outwards in front of each ear to more than an inch from the jaw.

The front lines of these projections dipped down to the base of the jaw on either side for an inch in front of the anterior auricular processes of the external meatuses covering up to some extent the ears, as seen from in front, and giving a strange appearance to the face by hiding the ears, and this was intensified by the hair of the beard there.

The swellings extended forwards on both sides of the face along and close to the base of the lower jaw, and as far forwards as the front of the submaxillary glands. These glands themselves were greatly increased in size; that of the right side being of the size of a hen's egg, whilst that of the left was half that size. They both projected for more than half their thickness beyond the line of the lower jaw, and furnished by the anterior extremities the limits of the growth there. Indeed a line drawn perpendicularly downwards from those extremities showed that the tumors of both sides did not come any further forward, lower down than those points, and a critical examination of the region of the larynx and of the sternal extremities of the sterno-cleido-mastoid muscles, showed that the central portions of those muscles passed through the tumors, or more accurately, that the tumors were developed there on the *inside* as well as the outside of those muscles.

To preserve as definite an idea as possible of these growths, I took and kept one set of tracings, by means of a long strip of sheet-lead one inch wide and one-eighth of an inch thick, which I placed, when well warmed by friction on their surface, along lines extending from the outer margins of the trapezii forwards and two fingers' breadth below and parallel with the base of the jaw, and as far forwards there as the anterior border of the sterno-cleido-mastoid muscles. These secured the *three fixed points* by which I could subsequently make tracings for comparison.

The actual measurements which I made before my dressing were for a line drawn across the neck just three inches below the occipital protuberance, seven and one half inches for a like line in the back, horizontal with that of the clavicles in front eleven inches, and for a line straight across the tip of one shoulder to that of the other, fifteen and one-half inches.

The measurements obtained after one week's treatment were, for the first of these three lines, six inches, a reduction of one and a half inches; for the second line nine inches, a reduction of two inches; and for the third line a trifle over sixteen inches, which being a difference in singular contrast with those of the other two lines, caused momentary surprise, but was soon found to be explicable by the increased freedom of motion of the shoulder of the right side, which allowed it to be carried well back.

At the end of the *second* week similar measurements, indicated by the interrupted blue lines dotted with red spots, the third set across the backs of the neck and shoulders were respectively five, nine, and sixteen inches, showing a change only for the first of the series.

Then, as I have said, the original infiltration into the subcutaneous cellular tissue had become so completely dissipated that the real *lymphomatous* character of the growth was to be readily recognized, and was commented upon by Prof. Jas. Tyson, who saw the patient on the morning of the fifteenth day, when I was applying the dressings. A sulcus had then formed on each side, separating very well, and defining clearly the cervical from the supra-clavicular portions. These sulcii became very great during this, the third week, especially on the right side, and they grew essentially at the expense of the truly cervical portions of the tumor.

At the end of the third week of my treatment the posterior borders of the tumors on each side had so ceased to be on the plane of the trapezii that I could not make any more tracings to be used for correct contrasts. The widest or most projecting portions of the tumors were then in the centres of the sides of the neck, that of the left side being nothing more than what would represent the natural contour of the neck there.

The patient had now not only recovered freedom of motion, lateral rotation, and flexion of his neck, but could hold himself perfectly erect. This has made an actual difference in his stature of one inch and a half over what it was at his first visit to me. His breathing became natural as early as the fifth day of my taking charge of him. He was then (June 26) able to lie down and sleep without any anodynes for twelve hours at a time, a thing he had not been able to do since the first of his attack, although he had always been treated by the free use of vegetable narcotics, bromides, and other saline sedatives. I had forbid his using anything of the kind on the night of my first seeing him. With this came improvement of his pulse, his appetite, and his general nutrition. These improvements have continued steadily going on up to the present time, the end of the eleventh week to-night since I first saw him. His complexion which was then markedly leukæmic, is now ruddy and as healthy looking as could be desired. He has regained his hearing perfectly on both sides. He has no signs of pharyngeal irritation or constriction. His voice is full and clear. His pains and hyperæsthesia of the integuments covering the growth disappeared in the first week, and have never returned.

Treatment.—This patient had never been without treatment since the onset of his attack. He saw his family physician on the next morning, who treated him first for a bad cold; then, and up to a short time before I saw him, by various constitutional remedies, such as iodides and bromides and other alteratives, and locally

by the application of tincture of iodine, blisters, and poultices. With them all the patient had, however, not obtained the least sign of relief. On the contrary, he said he had continued to grow worse up to the time of my prescribing for him. I then advised him to stop the administration of these remedies, and fearing that so sudden and complete a stoppage of the anodynes, to which he had long since become habituated, might occasion distress to his nervous system, prescribed the tincture of avena sativa, ten drops of which he was to take in hot water at bedtime every night. He took but two doses of that remedy, for on the third night he was so freed of all pain and distress that he went to bed without taking any, and slept the night through. With this single exception I have not given him anything since his first visit to my office, but have relied solely on a daily application of yellow clayey earth. This I have put on in the form of a smooth paste, thick enough to make it hold fast to the integuments of all parts where there was any swelling. This paste I made with water by means of an ivory spatula. By the latter I also made the application all over the tumefaction to the thickness of an eighth of an inch, laying on top of this a firm film of cotton batting, so as to have the clay fixed and held tightly in its place after it became dry, and until the shrinkage of the tumefaction would become such that free spaces were readily to be detected between the inner surface of the dry clay and the outer surface of the tumor. The necessity for renewing the clayey dressing was apparent every day. Indeed, after the patient had recovered his power of free motion of his neck, he did not maintain the applications in their places a whole day at a time. He never, however, washed the parts. What was left of the clay hanging to the integuments showed in itself the fact of shrinkage following the drying of each application. I dressed him in this way with the clay only once every day for eight weeks.

At the end of two months the shrinkage was such that the tumors on both sides were no longer so easily disturbed as regards their coverings by the movements of the neck. The tumors themselves were then so reduced in thickness that they were, on the left side, only small subcutaneous fragments or nodules of what was originally there, and on the right they occupied small spaces in the supra-clavicular fossa, the outer surface of the sterno-cleido-mastoid and the like surface of the submaxillary gland, all being so free by passive motion that their coverings with the earth were nothing like as easily disturbed as they were originally by the movements of the neck. For these reasons I entrusted the daily applications to the man's wife and himself. He says, however, that the applications do not hold as long and as well as my most recent ones.

In spite of all obstacles to the purely earth treatment, I am well satisfied with the progress of destruction which has taken place in this case, and my special object of bringing the patient here this evening is to show his present condition, in order that it may be compared with that which the subsequent treatment will effect.

NEWS ITEMS.

THE FEES OF PRESIDENT GARFIELD'S PHYSICIANS.—The following claims have been filed by the physicians in attendance with the board designated by Congress to audit the claims arising from the illness and death of the late President James A. Garfield. Dr. D. W. Bliss, $25,000; Dr. D. Hayes Agnew, $14,700; Dr. Robert Reyburn, $10,800; Dr. D. S. Lamb, for examination of the body at Elberon, New Jersey, $1000. No claim has been filed by Dr. Frank H. Hamilton.

YELLOW FEVER IN PENSACOLA.—The telegraphic despatches show the fever continuing, with perhaps a slight tendency to decrease. Up to and including October 9, there have been 1300 cases, and 114 deaths.

Dates.	Cases.	Deaths.
October 10th,	50	3
" 11th,	56	7
" 12th,	33	6
" 13th,	46	5
" 14th,	58	2
" 15th,	64	3
" 16th,	73	3
Total to date,	1680	143

Some encouragement may be obtained by looking at the records from week to week, thus:

	Cases.	Deaths.
Aug. 28th to Sept. 18th,	217	29
Week ending Sept. 25th,	300	25
" " Oct. 2d,	358	33
" " " 9th,	425	27
" " " 16th,	380	29
Total,	1680	143

This disease has spread to within sight of the picket line of the Navy yard, cases having occurred on the other side of the Big Bayou. The line is strictly guarded, and the people on the reserve continue hopeful that they may escape visitation. Occasionally a case of bilious remittent causes considerable excitement until its true character is determined. A general conflagration last week destroyed the supplies of provisions, but a relief steamer from Mobile is daily expected.

SEMI-CENTENNIAL CELEBRATION OF THE MEDICAL FACULTY OF MCGILL UNIVERSITY.—The Medical Faculty of McGill University celebrated their Fiftieth Anniversary by a conversazione, on Wednesday, Oct. 6th, when an historical address was delivered by Dr. R. P. Howard, the Dean of the Faculty of Medicine, and by a banquet on the evening of Oct. 7th.

Dr. Howard entered upon a review of the Faculty since its inception fifty years ago. After referring to the laying of the corner-stone of the present Montreal General Hospital, on the 6th of June, 1821, he said the first Canadian medical school was established by five of the hospital staff, Drs. Stephens, Robertson, Holmes, Caldwell, and Loedel. During the first session twenty-five students attended, not one of whom now survive. The first lecture-room was in a small wooden building in the Place d'Armes, where the Bank of Montreal now stands. The next event in the history of the early days of the Faculty, was the bequest by the Hon. James McGill. In the year 1811 he bequeathed a valuable property and £10,000 currency for the purpose of endowing the College which was to bear his name, and form part of the University, which it was believed was the intention of His Majesty George III. to establish in Montreal. In 182c the royal charter was obtained for McGill College, but litigation as to the will prevented possession of the estate till 1829. On the 29th of June, of that year, the Montreal Medical Institution was constituted the Medical Faculty of the College, and the first session of that Faculty was held in 1829–30, at which 35 students attended, and since then its lectures have been continued annually, except during the three years comprised in 1836-39, so that the present is its 50th session.

After speaking at some length of the formation of the University, he proceeded to sketch briefly the lives of the four men who were the founders of medical teaching in Canada—Dr. Andrew Fernando Holmes, who

died in the year 1860, and during the last eight years of his life, was Dean of the Medical Faculty; Dr. John Stephenson, who, from the records of the Montreal General Hospital, had probably the honor of originating the medical institution, and who died in 1842; Dr. Wm. Robertson, who died in 1842, and Dr. Wm. Caldwell, who died in 1833.

He concluded with an elaborate eulogy of the late Dr. George W. Campbell, former Dean of the College. He suggested the establishment of a faculty fund in memory of the late Dean, to be known as the "Campbell Memorial Fund." Yet such a fund established by citizens, would be a graceful tribute to the memory of a good man and an able physician, and at the same time a gratifying evidence that the Faculty's career and work have merited their approval.

The guests were then invited to the upper hall, and the conversazione was opened. It was a most brilliant reunion, all the professions being well represented. The band of the 65th Rifles played an excellent programme of music. Refreshments were served from several tables.

There were about 200 guests present at the banquet, including some of the most distinguished members of the medical profession, not only graduates of McGill, but also representatives from other famous medical institutions, besides several members of other professions and leading business men of the city of Montreal. The chair was occupied by Dr. R. P. Howard, Dean of the Medical Faculty. On his right sat his Honor, Lieutenant-Governor Robitaille, who by a happy coincidence was not only the representative of the Queen in the Province, but was also a physician and graduate of McGill College; he responded at length, to the toast of the "Lieutenant-Governor of Quebec." Principal Dawson responded to the toast of "The Principal of the University."

Dr. James R. Chadwick, representing Harvard University, responded to the toast "Sister Colleges," as did also Dr. Burkham, President of the University of Vermont, Dr. Workman, of the old Toronto School of Medicine, D. D. Osennens, of Victoria College, Dr. Covernton, of Trinity College, Toronto, and Dr. F. W. Campbell, of the Medical Faculty of Bishop's College.

In the course of the dinner, Dr. Howard announced that he had just received a letter which might justly be termed the first fruits of the appeal that he had made on the previous evening, as to the necessity of an endowment for the Medical Faculty. The writer, whose name he could not divulge, said, "that the remarks in the admirable address of last evening, on the necessity for increased means to enable you to extend and render still more efficient the work of your Faculty, impressed me so strongly that I shall be glad to assist in procuring this, and now make the proposition that if by the first of August next, you succeed in securing the $50,000 referred to as the Campbell Memorial Fund, I shall have the pleasure of handing you an additional $50,000, for the purpose of the Medical Faculty of McGill University." This announcement was received with enthusiastic applause.

The Annual Report of the Surgeon-General of the Marine-hospital Service has just been received. From it we learn that during the fiscal year ending June 30, 1882, 36,184 patients received relief from this Service, of whom 13,048 were treated in the hospitals and 23,136 at the different dispensaries; 333,475 days' relief in hospital were furnished; 312 trusses, 23 elastic stockings, 8 knee-caps, 7 pairs crutches, and other appliances have been issued to outgoing patients. Transportation to their homes has been furnished to 7 incurable patients.

The number of seamen treated shows an increase of 3,571 over last year.

In addition to the relief furnished, as shown above, 273 seamen in the Revenue-Marine Service and 33 seamen of the Light-House and Merchant Service have been examined, and 2,090 pilots have been examined for color-blindness.

Of late years there has been a great change in the manner of furnishing supplies to the various hospitals and relief-stations of this Service. Instead of purchasing them at the ports in limited quantity, and of such quality as might be procurable, the supplies are now bought by contract, delivered at Washington, and are inspected and repacked for distribution. This insures uniformity in the character of supplies, and, as far as medicines are concerned, their chemical purity.

There were thirty-six applications for appointment to the Medical Corps, and fifteen candidates appeared for examination, eight of whom passed, and seven were appointed into the Service, taking rank in order of merit.

The recommendation for the establishment of a marine hospital at Cincinnati has been concurred in by Congress, and an appropriation made.

The construction of the marine hospital at Memphis has not yet been commenced, owing to the difficulty in procuring the title to the site selected.

The examination of pilots for color-blindness has been continued during the past year. The following case is given as illustrating in a marked degree the efficacy of the Holmgren worsteds as a test for color-blindness:

A pilot on one of the revenue steamers was examined by a medical officer of this Service and pronounced color-blind. He appealed from this decision, and requested that a board be appointed to examine him. The board reported, as the result of the examination, that with the green skein he matched brown and orange; with the purple he put blue; and he repeatedly matched the colors as stated. The board was "of the opinion that Mr. —— is color-blind. He is otherwise physically qualified to perform the duties of a pilot." This report was forwarded to the Secretary with the following indorsement: ". . . . From the report of the board it will be seen that Mr. —— is green-blind and red-blind."

The friends of the party being still dissatisfied with the report, and claiming that in the Merchant Service he would be entitled to a re-examination by signal lights, the Secretary ordered the examination to be so made. The following is the report of the board:

Mr. C. was first shown into a dark room, where two green lights were burning — one, the standard; the other, green, but not up to the standard. After some hesitation, both were pronounced red. Then the change was made to both red, which he, after the some hesitation, pronounced both green. Then red and green were shown. These he got correct, but immediately changed the red to green; and then, when asked to state definitely, changed back. On the fourth trial, the red and green were shown, and the answer was correct. On the fifth trial a red was shown alone, and the answer was correct. Then this was removed and another red was put in its place—the change being made in full view of the applicant; this he pronounced green.

In view of the above facts, as developed by these tests, the local inspectors were satisfied that the applicant is unable to "sufficiently distinguish the colored lights on steam-vessels," and therefore refused to grant the license asked for.

It is gratifying to learn that the above and one other are the only cases in which the verdict of the skeins has been called in question during the past year. The pilots are now satisfied of the perfect fairness and effi-

ciency of the test. In the other case the applicant came all the way from the Pacific coast to lay his case before the Department, and he was re-examined in this office. The skein test showed green-blindness. An unanswerable proof of the infirmity of the applicant was given when a scarlet book was held against a white wall until the complementary color appeared. The spectators were requested to write on a slip of paper the name of the complementary color as it appeared to to them; which they did. The applicant was then asked to name the color, which he was entirely unable to do, saying it all looked "the color of the wall." others had, however, written on their respective slips "pale" green and "light" green. This experiment is strongly corroborative of the scientific propriety of the term color-*blindness* as applied to absence of color-sense.

Election of Officers of the Pathological Society of Philadelphia.—At a stated meeting, held Thursday, October 12, 1882, the following officers were elected for the ensuing year: *President*—James Tyson, M.D. *Vice-Presidents*—J. Solis Cohen, M.D., F. P. Henry, M.D., E. O. Shakespeare, M.D., J. B. Roberts, M.D. *Secretary*—P. G. Skillern, M.D. *Recorder*—C. B. Nancrede, M.D. *Treasurer*—M. S. French, M.D. *Curator*—Carl Seiler, M.D.

American Academy of Medicine.—The Seventh Annual Meeting of the American Academy of Medicine, will be held in the hall of the College of Physicians, Thirteenth and Locust streets, Philadelphia, on Thursday, October 26, at 3 o'clock P.M. Dr. Traill Green, of Easton, Pa., the President, will deliver an address at 8 P.M., Thursday, October 26, to which the profession is invited.

Foster's Physiology has been translated into Italian by Prof. Michele Lessona.

Personal.—Prof. Gussenbauer, of Prague, has refused the call to Würzburg to fill the vacancy caused by Bergmann's removal to Berlin.

Profs. Socin of Basle, and Mars of Freiburg, have been proposed by the Medical Faculty of Würzburg as the successor of Prof. Bergmann.

Dr. Marion Sims.—Dr. Marion Sims sails for Europe shortly, and will spend the winter in Rome for the recuperation of his health.

Prof. Rossbach, the Professor of Pharmacology in Würzburg, who has been called to Jena as the successor to Nothnagel, has accepted the position and will commence his course during the present winter term.

Memorial of Becquerel.—A statue has been erected at Châtillon-sur-Loing, in memory of Becquerel, the eminent physicist. MM. Dumas and Frenuz made eulogistic addresses at the inaugural ceremonies held on September 24.

Gift to University College Hospital (London).—Mrs. Nathaniel Montefiore has given £2,600 to University College Hospital, for the endowment of two beds in memory of her late brother, Sir Francis Henry Goldsmith, Bart., and her late son, Mr. Leonard Montefiore.

Died, on September 19th, Dr. Edward Cox, of Battle Creek, Michigan, in the 67th year of his age. Dr. Cox was one of the pioneer physicians of the West, and was in 1878 President of the Michigan State Medical Association. He was an able writer and took quite a prominent part in politics.

Ergot in some Affections of the Bones.—At the recent Congress for the Advancement of the Sciences, held at Rochelle, M. de Musgrave-Clay, of Pau, read an interesting paper on this subject, in which he mentioned a case of white swelling of the neck, occurring in a child six years of age, in which the administration of powdered ergot greatly reduced the pain and swelling, and arrested the suppurative inflammation of the bone. He states that no danger of poisoning need be feared in its prolonged use.—*Bull. Gén. de Thérap.*, September 30, 1882.

Births in Paris.—From September 8th to September 17th there were 1154 births in Paris: of these, of the male sex, 419 were legitimate, 156 illegitimate; of females, 437 were legitimate, 152 illegitimate.—*Le Progrès Méd.*, September 23, 1882.

Health Reports.—The Sanitary Engineer proposes to publish the most important data collected by the National Board of Health, and heretofore published in the *Bulletin* of the National Board of Health, the latter having been discontinued on account of the refusal of Congress to grant the necessary appropriation for defraying the expenses of its issue.

A Town Clerk's Health Report.—Dr. J. T. Reeve, Secretary of the State Board of Health of Wisconsin, in the annual report of the Board for 1881, just published, refers to the difficulties he encountered in obtaining statistics from certain townships. To facilitate the collection of the necessary *data*, he distributed a blank form of the annual report, to be filled up and returned. Generally, very satisfactory responses were made; but in one case "the Clerk returned no answer to any communication for two or three years; finally, the blanks were enclosed in a sealed envelope, addressed to the most important office in the township, and indorsed with a request to the Postmaster to forward them to the official in question. This plan succeeded, and the following choice epistle from the Clerk was received in answer: 'I should like it if the Ligislatures would appropriate about $1000,000 to be dewided between the Town Clerks for making the 1000 and once repor's which are sent to us dayly. They institute offices and appoint Cummissioners so as to feed a lot of politicians which they need to run eelections. The Town Clerks has to do the runing, picking up Statistics gratis free and for nothing and the Cummissioners draws a good salary will (with ?) a few days of actual Labor.' This document, which is given *verbatim et literatim*, was written on a scrap of paper, apparently torn from the bottom of an old letter, and forwarded as the report from a town of about 1,800 people, and is the only report ever yet received by this Board concerning the health and sanitary conditions of the community in question."

Night Medical Service for Brooklyn.—Brooklyn is about to follow New York and Washington in the establishment of a night medical service.

Immigrant Inspection Service; National Board of Health; Operations in the Western District during the Month of September, 1882.—Supervising Inspector Rauch reports that during the past month there have arrived and been inspected in this District, comprising the States of Indiana, Illinois, and Missouri, a total of 14,404 immigrants, of which number 2,918, or

about one-fifth were found imperfectly or not at all protected against smallpox, liable to contract the disease and to propagate the contagion. Of these, 234 had never before been vaccinated, among which were many adults.

There were found in transitu five cases of smallpox which were removed to hospitals in St. Louis and Chicago respectively, the necessary precautions taken with those who had been exposed, and the cars and belongings thoroughly cleansed and disinfected. Of these cases, the inspectors have made full and detailed reports, that of Inspector Starkweather being as follows:

September 6.—Found a case of modified smallpox in the person of a single woman, thirty-nine years of age, coming from a small town near Manchester, England, and bound for Neenah, Wisconsin. She had been vaccinated only once—and then in infancy. She presented a card certifying that she was vaccinated, signed by the surgeon of the steamship *Scythia* of the Cunard Line. On the obverse was the following, printed in English and four other languages: "*Keep this card to avoid detention at quarantine and on railroads in the United States.*"

The patient occupied passenger car No. 424 of Pennsylvania Railroad. The rash appeared on Monday A. M., September 4th, or before the time of leaving the ship. The ship's surgeon did not look at her arms she said, nor so far as I could ascertain did he do any vaccinating of his people, and made only a very superficial and worthless inspection. The eruption must have appeared sixty hours before the time I first saw her. It was located upon the forehead, cheeks, neck, and upper extremities somewhat abundantly; none apparent upon lower limbs. The patient said it was prickly heat, and that she would soon be over it if allowed to go on to Neenah,

Oscar C. DeWolf, M.D., Health Commissioner of this city, saw the patient with me in consultation on the car at my request, partly to satisfy the patient and partly to protect the Inspection Service and railroad corporation against possible malicious action for damages in the future. She made no opposition to being taken in the ambulance to the smallpox hospital. The car was thoroughly fumigated by the City Health Department, and the necessary instructions were given to the railway company concerning its present use.

I vaccinated sixty-five adults, who had been more or less exposed on the train, the railroad officials cheerfully and courteously rendering every needful assistance. Two of the people whom I vaccinated at their own request, belonged to the crew of the train.

This case was detected before leaving Valparaiso, Ind., but partly owing to want of facilities at any point nearer than Chicago, it was brought on to that city for treatment—every precaution being meanwhile taken to prevent any exposure of others during the remainder of the journey.

The cases, four in number, removed to the hospital in St. Louis, were detected while still in Illinois. These were found among a party of Bohemians bound for Missouri, have all since convalesced and been discharged. So far as has been ascertained, no other cases have been caused by these.

The importation into Ford county, Ill., reported in my last (see The Medical News, Sept. 16, 1882, p. 336), gave rise to three other cases, of which one terminated fatally. (This was the importation by a horse-dealer returning from France on a stock-boat, the *Friga*, which boat, it is alleged, escaped inspection at New York quarantine. The horse-dealer, Hefner, contracted his disease from a case of modified smallpox which occurred during the voyage. As he did not travel as an immigrant in this country, he was not seen by any of our inspectors.) The outbreak was confined to one family, and danger of any further spread is not now anticipated.

Concerning the character of the protective work done by steamship surgeons, there is still the same disparity noted as has been commented upon before. Passengers arriving by vessels of the same line present the most marked contrasts. On one, the surgeon will have made a careful inspection and have vaccinated or revaccinated all unprotected or doubtful cases; on the very next arrival by the same line, evidences of gross carelessness will be found in children of all ages holding the surgeon's cards, but without any personal evidence of ever having been vaccinated; and, in the case of adults, not revaccinated since infancy, but similarly equipped with cards to secure them, in several languages, "against detention on railroads in the United States."

Copies of my previous reports, forwarded to the officers of the various lines, have in many cases, it is believed, been productive of improvement in this respect; but the steamship medical service is not yet by any means what it should be in its treatment of immigrant passengers with regard to the preservation of health. In the absence of any adequate national legislation prohibiting the introduction of foreign pestilence, and the want of proper State and local legislation, I know of no better method of securing the result, under present conditions, than by giving publicity to the character of the work done by each surgeon, as shown in the condition of the immigrants passing through his hands and arriving in the interior.

Unprotected immigrants, susceptible to smallpox and capable of propagating the contagion, have been received in this district during the past month from the following vessels:

Steamships Abyssinia, Wyoming, and Arizona, Guion line.

Australia, Westphalia, and Leipzig, Hamburg-American line.

Bermuda, line not reported.

Brittannic and Germanic, White Star line.

British Crown, Lord Clive, Ohio, and Pennsylvania, American line.

Canada, Trans-Atlantic Company.

Circassia, Anchor line.

City of Chester and City of Montreal, Inman line.

Dupuy de Lome, Compagnie Commerciale des Transports a Vapeur Francais.

Edam and Pollux, Royal Netherlands line.

England and The Queen, National line.

State of Georgia and State of Nebraska, State Steamship Company.

Main and Strasburg, North German Lloyd's.

Ontario, Dominion line.

Parthia, Malta, and Pavonia, Cunard line.

Plantyn, White Cross line.

The most notable line for disregard of vaccinal protection of its passengers is the American, of Philadelphia. In one instance, twelve passengers out of fifty by the steamer Pennsylvania, of this line, were found totally unprotected, never having been vaccinated at all. Yet every one had been furnished a steamship protection card. This proportion will hardly hold good throughout, but the number of unprotected by this line is far in excess of any other.

In gratifying contrast to the foregoing exhibit is that made by the surgeons of the following-named vessels, many of them belonging to the lines above enumerated, but on which the vaccinal service appears to be thorough, the inspections careful, and the vaccinations and re-vaccinations effective:

Allan Line: Sardinia.

Anchor Line: Ethiopia.

Cunard Line: Samaria, Servia, Cephalonia.

Dominion Line: Dominion.
Great Western Line: Gloucester.
Guion Line: Iowa.
Hamburg-American Line: Bohemia, Gen. Werder, Wieland, Frisia, Vandalia, Gellert.
Inman Line: City of Chester, City of Berlin, City of Paris.
Monarch Line: Grecian Monarch.
National Line: Helvetia, Spain, Egypt.
Netherlands-American Line: Schiedam.
North German Lloyd's: Salier, Nurnberg, Elbe.
Red Star Line: Vaderland, Pennland, Belgenland, Switzerland, Waesland.
Royal Netherlands Line: Surrey, Jason.
State Steamship Co: State of Florida, State of Missouri, State of Indiana.
Stettiner-Lloyd's: C. H. Schultz.
Thingvalla Company: Hekla, Island.
Trans-Atlantic Steamship Company: France, Amerique, St. Laurent.
White Star Line: Baltic.

One inspector notes the difference in passengers arriving by vessels of the same line at Boston and at New York, and attributes the superiority of those arriving at the former port to the character of its inspection service. I have also had occasion to note that we have had, in Illinois, but one case (a mild varioloid) which could be attributed to Boston, in something over a year.

Evidence of the growing interest in this protective measure, is found in the increasing numbers of immigrants vaccinated, or revaccinated just before sailing. This is especially true of the English and Scotch, and in a great measure offsets the occasional opposition to the inspection, met with from individuals of the same nationalities, and which seems to be due to the anti-vaccinationists of Great Britain.

Vaccination performed at this time, *i. e.*, prior to sailing, has the advantage of enabling the steamship surgeon to judge of its effectiveness during the voyage; and it would be a decided improvement on the present general plan, of waiting until the last days of the voyage, if the surgeon would perform the operation as soon after leaving port as practicable. This would give him an opportunity of noting the value of the virus and result of his work, besides facilitating the labor of inspection upon and after arrival. I think that a circular letter from the Board, making this request of the managers of the various steamship lines, would meet with a favorable reception.

The disparity in the results of vaccination performed on shipboard is due, possibly, as much to the method of performing the operation as to the character of the virus employed, though there is, doubtless, much of this used which has become inert, either from being kept too long or from exposure to the salt, moist atmosphere. Both of these evils would be more likely to be remedied if the surgeon was able to follow up the results of his work.

As all doubtful cases in this District, that is, those in which the evidence of proper vaccinal protection is not clear and unmistakable, are carefully vaccinated with virus seldom more than seventy-two hours from the heifer, it is probable that those passing through our hands are more thoroughly protected than many of our citizens.

Recent action in England, detailed in the following, will tend to still further lighten the responsibility of this Service:

Dr. Bloxall, R. N., one of the medical inspectors of the local Government Board, accompanied by Capt. Wilson, representing the Board of Trade, has opened at Liverpool an inquiry with regard to certain sanitary questions connected with emigration, and as to the circumstances in which emigrants passing through the port of Liverpool are placed before sailing. He is likewise instructed to inquire as to the provision made for the isolation and treatment of sick persons arriving from infected places on the Continent or in the United Kingdoms; and, further, as to the sanitary arrangements and supervision of the lodging-houses into which emigrants are received, and the means taken with respect to infectious diseases occurring therein.

In a few instances the cars have been found wet and dirty, especially those transferred from connecting lines; but, as a rule, their sanitary condition is quite satisfactory.

Cholera infantum among children, and diarrhœa among adults were quite frequently met with in the early part of the month. One child died *en route* of the former disease. Measles and chicken-pox have appeared often enough to keep the inspectors on the alert and to demand the exercise of discretion and prudence in dealing with their subjects.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending October 7, 1882, indicate that erysipelas has increased, and that cholera infantum, cholera morbus, bronchitis, and influenza have decreased in area of prevalence.

Compared with the average of reports for the months of October in the preceding five years, all diseases except puerperal fever, were less widely prevalent during the week ending October 7, 1882, than usual.

Including reports by regular observers, and by others, diphtheria was reported present during the week ending October 7, and since, at 20 places, scarlet fever at 11 places, and measles at one place. One case of smallpox was reported at Grand Rapids, October 9.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 9 TO OCTOBER 16, 1882.

GRAY, W. W., *First Lieutenant and Assistant Surgeon.*—To be relieved from duty in Department of the Columbia, and to report in person to Commanding General, Department of the South, for assignment.—*S. O. 237, A. G. O., October* 11, 1882.

BARNETT, RICHARDS, *Captain and Assistant Surgeon.*—Relieved from duty in Department of the Platte, and to report in person to Commanding General, Department of the East, for assignment.—*S. O. 237, A. G. O., October* 11, 1882.

CRAMPTON, LOUIS W., *Captain and Assistant Surgeon.*—To be relieved from duty in Department of Dakota, and to report in person to Commanding General, Department of the East, for assignment.—*S. O. 237, A. G. O., October* 11, 1882.

BRECHEMIN, LOUIS, *Assistant Surgeon.*—Relieved from duty in Department of Dakota, and to report in person to Commanding General, Department of the East, for assignment.—*S. O. 237, A. G. O., October* 11, 1882.

WAKEMAN, W. J., *Assistant Surgeon.*—Upon being relieved at Fort Douglas, Utah Territory, to proceed to Fort Fred Steele, Wyoming Territory, and report for duty.—*S. O. 106, Department of the Platte, Oct.* 6, 1882.

KANE, JOHN J., *Assistant Surgeon.*—Granted leave of absence for one month, with permission to apply for extension of three months.—*S. O. 202, Department of the Missouri, October* 9, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

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THE MEDICAL NEWS.

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ORIGINAL LECTURES.

LARDACEOUS DISEASE OF THE LIVER.

A Clinical Lecture delivered at the Philadelphia Hospital, September 13, 1882.

BY JAMES TYSON, M.D.,

PROFESSOR OF MORBID ANATOMY IN THE UNIVERSITY OF PENNSYLVANIA AND ONE OF THE PHYSICIANS TO THE PHILADELPHIA HOSPITAL, ETC.

GENTLEMEN: The patient whom you see is thirty-two years of age, an American by birth, and by occupation a puddler. His family history is good, and he himself enjoyed excellent health until September, 1879, when he suffered an injury to his right hip, while lifting a piece of cast-iron. The exact nature of the original injury is not known to us, nor does it immediately concern us. Sooner or later, however, there became established suppurative disease of the bone with fistulous openings, from which discharge is continuous. Of possible importance in connection with the diagnosis is the fact that he was operated upon for *fistula in ano* in February, 1880. The information is not definite, but the operation may have been necessitated by the burrowing of pus in the ischio-rectal tissues. He denies ever having had syphilis.

About six months ago, that is to say, in the month of March, his abdomen began to enlarge, and the enlargement has slowly continued until, at this time, it is evident to superficial examination, and closer inspection shows the prominence to be rather more upon the right side than the left, that is, in the right hypochondrium.

Proceeding to determine the area of enlargement by percussion, we note in the mammillary line, percussing downwards, that dulness begins at the sixth rib. Now this is not higher than the upper border of the liver at this point in health. Indeed, you will find, in some of your text-books, the upper border of the liver in the mammillary line noted as being in the fifth interspace. Proceeding downwards with our percussion, we find that, instead of ceasing at the free edge of the ribs, dulness extends at least four inches below that border. In the median axillary line we note the upper border of dulness at the seventh intercostal space, also in the normal position. But again the lower boundary is far below the edge of the ribs in this line, almost at the crest of the ilium. Anteriorly, also, in the median line, the lower border of the liver, instead of extending only about one-half the distance from the end of the ensiform cartilage to the umbilicus, is found at least two-thirds the way down between these points.

We can only conclude from such an examination that the liver is enlarged. But what is the cause of the enlargement? What is the disease from which our patient is suffering? In the first place, what are the diseases in which the liver suffers enlargement? They include acute congestion, hepatitis, abscess, cancer, hydatid disease, fatty liver, and lardaceous disease. In the first two there is, at most, moderate enlargement, never anything like we find here. There is also tenderness over the region of the liver. Upon very decided pressure there is, in our patient, some flinching, but the tenderness is not marked. There are none of the other symptoms of these conditions, no fever, no headache, no nausea, constipation, or coated tongue; no pain or weight in the right side, or pain in the right shoulder; no jaundice. I think we may, therefore, safely exclude hepatitis and acute congestion. In *abscess* there are the same symptoms more intensified, with possible fluctuation. We need not pause, therefore, to further discuss abscess.

In *cancer*, on the other hand, we have enlargement of the liver, quite as marked as in this instance, and at times even more so. But it would be impossible for the enlargement to reach this degree without cachectic symptoms which are here absent. Indeed, one would scarcely suppose from inspection of the man's face that he is very ill. Again the surface of the enlarged liver of cancer is often uneven or bossilated from the presence of nodules, which can sometimes be felt through the abdominal walls. But the surface of the liver in our patient is quite smooth. Finally cancer of the liver is rarely primary. There is almost always a tumor elsewhere. Here there is not. Cancer may as well, therefore, be excluded from the possible diseases.

The *fatty liver* is also an enlarged liver, and it is a smooth liver as well. But it rarely becomes as large as the organ in the patient before us. Further, it is attended by other exhaustive disease, especially consumption, and is caused by hard drinking and syphilis, none of which are here present.

Hydatid disease of the liver is also attended by enlargement. But here again we have irregular enlargement of the organ, instead of the smooth enlargement here present. In other respects the symptoms are not dissimilar, in the absence of pain and tenderness. We must, therefore, look about us for something which will further aid us to distinguish these two conditions. Lardaceous disease is rarely confined to the liver alone. Most commonly there is simultaneous enlargement of the spleen, and upon examining this organ we find that instead of the usual area of two inches square, which does not extend anterior to the median axillary line nor below the edge of the ribs, we find it occupying a large area of at least four inches square. The kidneys are also sometimes involved in this change, and we recognize it by the presence of albuminuria, but in this case there is none. Enough has been said to make it plain that only one of the diseases discussed can be here present, and that is lardaceous or amyloid disease.

But what is lardaceous disease? It is a disease in which first the cells, and finally all the tissues of the organ, become infiltrated with a peculiar albuminoid substance, the effect of which is to cause them to swell, and assume a glassy lustre, and by the aggregation of these enlarged cells there is produced a corresponding enlargement of the entire organ. This is the infiltration which Virchow first observed, and, in consequence of the peculiar reaction which he noted, called it amyloid substance, though erroneously. The reaction he observed was a blue color, by the addition of iodine and sulphuric acid; whence he concluded that the infiltrating material was amyloid or starchy. This conclusion was soon found to be erroneous, as the substance turned out to be albuminous in composition, while the reaction is by no means a constant one. On the other hand a very constant reaction is that by iodine alone, which strikes a mahogany red color with the amyloid substance, instead of the brown color which is usually produced by treating albuminous tissues with iodine.

A very pretty reaction is also that of anilin violet (a 1 per cent. solution), which strikes a red or pink color with the amyloid material, while the unal-

tered tissues are stained blue, whence a beautiful contrast results.

Most important is a study of the causes which bring about this form of disease, because it will presently be seen that our almost sole power of treatment lies in prevention, rather than cure of the already formed disease. The cause of this form of disease is pretty well determined, and it is found to be either syphilis, or the long-continued presence of some exhaustive drain upon the system, such as occurs in protracted disease of bone with suppuration, phthisis accompanied by copious expectoration, or even long-continued albuminuria. In the patient before us, we are aware of the existence of disease about the head of the thigh-bone for at least two and a half years before the liver began to enlarge, and with the knowledge we have of the causation of the disease, I think we may assert with some positiveness that the hip disease is the cause of the lardaceous infiltration of the liver and spleen.

As to treatment and prognosis, it is evident from what has been said in discussing the etiology that we cannot hope for marked results while the cause is in operation. His hip is full of sinuses, indicating caries of the bone, and it becomes a very nice question, to solve which we must call in the aid of the surgeon, whether operative interference is here justifiable or likely to be attended with beneficial results. The question is further complicated by the fact that there is *existing* lardaceous disease of the liver and spleen, and the question whether, even supposing the bone disease could be cured, we could then get rid of the amyloid condition of the liver. I must say I do not recall a case thus far advanced which has been cured. Nevertheless, it is evident that it is more likely to get well with the causative disease removed than when it is present, and if there is a reasonable prospect of success, an operation directed to the removal of the cause should be performed.

Admitting, as all now do, that surgical diseases are a frequent cause of lardaceous disease, it is nevertheless true that this fact is often overlooked by surgeons, and operations are delayed when a recollection of possible results would suggest earlier operation, and avert the unfortunate complication.

When syphilis is the cause of lardaceous disease, the treatment for syphilis is the treatment for the visceral affection, and it is, of course, the treatment for the secondary and tertiary forms. The persistent use of small doses (by which are meant doses of from $\frac{1}{60}$th to $\frac{1}{32}$th of a grain) of iodide of mercury with iodide of potassium is indicated. It is by no means certain that iodide of potassium has the same effect in reducing parenchymatous overgrowth as it has upon interstitial hyperplasias in the liver, but there is, at any rate, no contraindication to its use, and in the present case I have ordered it to be continued in moderate doses of five grains, before each meal, freely diluted. And this is important, for it has been determined that the effect of iodide of potassium upon the liver, at least, is very much more rapid when administered fasting and freely diluted, than when given after meals and undiluted.[1]

When phthisis is the cause of the lardaceous disease, the treatment of the pulmonary affection is that of the former. Here cod-liver oil and iodide of iron, with abundant nutritious food, and all possible favorable hygienic influences, are indicated. And it may be said of lardaceous disease from any cause, that a supporting plan of treatment is essential, whatever may be the special indications due to special causes.

[1] See a valuable paper on this subject by Dr. J. M. Guiteras in the Philadelphia Medical Times, vol. x., 1880.

ORIGINAL ARTICLES.

TWIN PREGNANCY, WITH PERITONEAL DROPSY.

PARACENTESIS, RESULTING IN THE EXPULSION OF THE FŒTUSES PRIOR TO THE SIXTH MONTH OF PREGNANCY; RETENTION AND ABSORPTION OF THE PLACENTÆ, WITH RECOVERY.

BY GEORGE ROWLAND, M.D.,
OF COVINGTON, INDIANA.

(Read before the Fountain County, Indiana, Medical Society.)

My object in this article is to invite attention to the subject of pregnancy complicated with ascites, and the practical importance of an early correct diagnosis.

Effusions within the abdomen may occupy three separate locations, or even more than three; thus during pregnancy, effusions may accumulate within the amnion, and form what is known as dropsy of the amnion; also, effusions may form between the membranes of the ovum and internal surface of the uterus, giving rise to what is known as hydrometra, or dropsy of the womb; and lastly, effusions of fluid may accumulate within the cavity of the peritoneum, giving rise to a true ascites.

Either one of such effusions, accumulating during pregnancy, is comparatively of rare occurrence. It has been said of these dropsies, that they may occur separately, or two of them may co-exist in the same female.

This affection usually makes its appearance in the first half of pregnancy, usually about the fifth or sixth month, but rarely later. When, however, the dropsical effusion begins at an early stage of pregnancy, it sometimes progresses so rapidly that the abdomen may at the fifth month become as large as at the usual term of gestation.

The progress of peritoneal dropsy increases rapidly; the face is puffed; the abdominal walls, thickened by infiltration, present a glistening appearance. The umbilicus forms a smooth, rounded tumor, sometimes translucent, at the base of which is the umbilical ring. This peculiar character of the umbilicus is very important to the physician in making his diagnosis, as the sequel will show. The labia share also in the general infiltration, and are largely swollen. The skin of the lower extremities is greatly distended, is exceedingly painful, and occasionally bursts in a few instances.

But probably of all the symptoms, dyspnœa is the one of which the patient complains the most. It is in this distressing condition that the physician is implored to give assistance. All the organs of the thorax are crowded upon, their functions are obstructed, dyspnœa becomes extreme, respiration is short and painful. The patient at all times is obliged to remain propped in an arm-chair, both day and night, and yet in this position the conversion of venous into arterial blood is so imperfect that every instant she seems to be threatened with suffocation. This distress is aggravated by constant insomnia, headache, extreme thirst, and disgust for food. Percussion and palpation of the abdomen very readily detect a large amount of fluid within its

cavity, though in the following instance it was not equal in all of its parts. The books tell us it is generally absent, or nearly so, in the hypogastrium, much more clear in the hypochondrium, and very well marked in the left hypochondriac region, near the cartilages of the left false ribs.

The large accumulation and enormous distention of the parietes of the abdomen prevent the uterus from being felt and its position determined, and whether or not pregnancy exists is very difficult to determine with any precision. The motions of the fœtus, though obscure, may be felt by the mother, but the presence of a fœtus in utero is one of great difficulty to determine. The large and distended abdomen prevents auscultation from being of any service in determining whether or not pregnancy exists. In the delicate manipulations of ballottement and agitations of the fœtus in utero, or of the uterus itself, which is one of the least equivocal signs of pregnancy, when abdominal dropsy exists, very little can be learned, owing to the great amount of liquid accumulated within the abdominal walls.

Abdominal dropsy, complicated with pregnancy, is a grave affection, and more particularly when in the early stages of gestation. When it occurs in the latter months of pregnancy, there is reason to hope it will be arrested by the delivery of the fœtus before producing any serious disorder, compromising the life of the mother. But when the effusion begins in the first half of pregnancy, there is great cause for alarm, and should the effusions progress rapidly, paracentesis will be demanded long before the ninth month.

The following is a case that was under my care for several weeks, of a woman who during pregnancy had a large accumulation of liquid within the abdomen, requiring paracentesis to relieve urgent dyspnœa, which resulted in the expulsion of two fœtuses, at about five and a half months of gestation:

Mrs. C. aged 37, mother of three children, related the following history: "Was in good health prior to April, 1881. During that month my monthlies ceased; I then suspected I was pregnant. Had no morning sickness, as was usual in my former pregnancies. Did not notice anything particular as to my appetite. My breasts did not increase in size, and nothing was particularly wrong, except my monthlies had ceased. I have three living children, and had two miscarriages, both of which occurred since birth of my youngest child. I felt as well as usual until the first of June, 1881. Then I first noticed my abdomen to gradually increase in size. My urine decreased in quantity, and was very black. Some days I would only pass one-half pint of urine in twenty-four hours. I drank much water, and I had a constant intense thirst. My abdomen continued to increase in size, and my breathing was so difficult that I would almost suffocate. My urine continued to decrease in quantity, and my thirst was never assuaged."

This was the condition in which I found the patient on September 10. After a careful examination of the case, one of the questions was, did pregnancy exist? It will be remembered that the menses ceased in April, and that the abdomen rapidly increased in size after the first of June. On the part of the patient, no signs of pregnancy existed, save that of the cessation of the menses. There had been no motion of the fœtus felt by the mother. There was great enlargement of the abdomen, but by percussion, fluctuation was produced, showing that a large amount of fluid was evidently in its cavity.

There was no umbilical depression, as we have in natural pregnancy, but instead there was an umbilical tumor. The phenomena presented by the mammæ did not confirm pregnancy. On making a vaginal examination, both in the erect and recumbent positions nothing definite could be ascertained. Neither could anything be learned by the usual manipulations and auscultations, that would indicate positively that pregnancy existed. No sounds of the fœtal heart could be heard, and those who claim to be able to detect a twin pregnancy by auscultation might have met with a failure in this instance.

After making a summary of all the symptoms in the case, it was pronounced abdominal dropsy without pregnancy, but with a possibility of there being pregnancy. Paracentesis was recommended, but the patient declined, choosing rather to resort to the usual medicinal remedies, hoping thus to remove the fluid through the emunctories; but vain hope! After a trail of the hydragogues and diuretics, as far as it was prudent to push such remedies, they proved to be of little value. They were resorted to by myself with reluctance, and were relinquished as soon as found to be unsuccessful.

Finally the accumulation of fluids increased so rapidly and to such an extent that the life of the mother was threatened by suffocation, and it was evident that the only means of saving her life was the immediate evacuation of the fluid.

But the question was, where should the puncture be made? If pregnancy existed, the woman was between five and six months of gestation. At this stage of simple uterine pregnancy the fundus of the uterus is an inch above the umbilicus. The development of the uterus thus makes it impracticable to insert the trocar at the usual place of insertion in ordinary ascites, which is from one to two inches below the umbilicus.

The most prominent fluctuation was in the left hypochondrium, and was greatest near the edge of the false ribs, and instances are recorded where the trocar was introduced between the uppermost part of the external border of the rectus muscle and the edge of the false ribs, in the left hypochondrium.

Furthermore, it is very important, before the operation of paracentesis is performed, where there is a possibility of pregnancy existing, to be clear in the diagnosis as to whether we have dropsy of the uterus or dropsy of the peritoneum. The uterus may be distended by fluid to the size which it usually has at the end of gestation, and such a distended uterus may present all the external appearances of an abdominal dropsy.

A dropsy of the uterus may be distinguished from a dropsy of the peritoneum. In peritoneal dropsy the urine is small in quantity and turbid; great thirst; percussion produces fluctuation, which

is more perceptible at the upper than at the lower part of the abdomen.

In dropsy of the uterus the abdomen may be as large as at the ninth month, but fluctuation is obscure, no thirst, and urine in normal quantity.

Thus it was clear that the case under consideration was that of peritoneal dropsy, and such it was pronounced.

On the 22d of September, I introduced a trocar and canula two inches below the umbilicus through the abdominal walls, and drew thirteen pints of clear liquid away. The effect was immediate relief of all the urgent symptoms, and the patient was left an anodyne for the night, promising to call next day. Within twenty hours the woman was seized with labor pains, and in one hour after I reached the house she gave birth to a fœtus, which immediately expired. On making an internal examination, a second fœtus was discovered, with breast presentation. With but little difficulty it was converted to a foot presentation and removed.

There was little loss of blood—none of any consequence. The uterus was rather sluggish in contracting, and the placenta gave no evidence of being removed. Waiting sufficient time, the left hand was introduced into the uterus, with the expectation of removing them, but here another difficulty presented itself, which was either an hour-glass contraction of the uterus or an enlarged placentæ.

Before the true state of affairs could be ascertained, and while the hand was within the uterus, the patient was seized with syncope, lasting nearly two hours. Restoratives were administered, producing rest and sleep, and further counsel requested. Dr. G. S. Jones was called in consultation, and after careful consideration of the case for forty-eight hours, it was decided to make no interference, but trust to restoratives, nourishing diet, with quinia in conjunction with weak carbolic acid solution injection into the uterus. This treatment, with slight variations, was continued for two weeks; the patient rapidly recovered, and on the eleventh day after the operation of paracentesis, she walked across the room and was able to sit up part of the day. Up to the date of writing, Oct. 6, 1881, there has been no removal of the placenta, there is no abdominal dropsy, the kidneys secreting normal quantity of urine, no dyspnœa, no thirst, but instead there is every indication of a rapid and good recovery.

P. S.—At this date, Jan. 30, 1882, the patient having recovered over three months, and no expulsion of placenta, and there being evidence of their absorption.

NOTES ON A CASE OF IDIOPATHIC RETRO-PHARYNGEAL ABSCESS, WITH SOME OBSERVATIONS ON DIAGNOSIS AND TREATMENT.

By ALEXANDER W. MacCOY, M.D.,
MEMBER OF THE PHILADELPHIA LARYNGOLOGICAL SOCIETY.

On August 8, 1882, Robert H. Clark, æt. 43, native, widower with three children, presented himself for treatment at the Jefferson Medical College Hospital.

The history he gave was as follows: he never had syphilis; early in July, after having been under great anxiety and physical exhaustion from nursing a sick wife, he first felt a slight pain on deglutition. Shortly after, a slight stiffness of the neck, followed by increasing rigidity, became apparent, accompanied by flexion of the head forwards, which soon became so marked as to force his chin upon his chest. Extension of the neck was impossible. As the neck became rigid he began to suffer from an excruciating, lancinating pain—which darted upwards into back and sides of the head, extending as far as the vault. He described this pain as terrible in the extreme. Slowness and difficulty in swallowing increased, soon followed by inability to take solid food. With great care, small quantities of liquids could be slowly swallowed, although frequently the fluid would come out of his nostrils. A short time after his attack began, he put himself under the care of a physician; he continued under his care for some time, when, no relief being afforded, his physician referred him to the Throat Department of Jefferson Medical College Hospital.

Upon admission, patient's face was thin and worn; head flexed on chest, rotation could be moderately effected, and there was a slight fulness of the neck on the right side, beneath the angle of the jaw, with enlarged lymphatics; voice thick, and difficult to understand; respiration somewhat impaired; mouth could be opened sufficiently to admit tongue depressor or finger.

Examination: After the tongue had been gently depressed, a much swollen soft palate and uvula were seen, red and dusky in color. The uvula was pushed well forward into the oral cavity, and very tense. Below the soft palate on the right side, the posterior wall of the pharynx could be seen bulging forward to the base of the tongue, filling up the entire space of the pharynx from before backwards and extending well over beyond the median line to the left. Examination by the finger showed the swelling extending about an inch above the soft palate, but increasing in tension from above downwards until, on a level with the superior margin of the larynx, it was greatest. The swelling appeared to extend about a half inch below the aperture of the larynx. The epiglottis was pushed up against the base of the tongue. On examination with the finger the bulging was found to be elastic, and to show fluctuation. Laryngoscopic examination could not be effected.

Treatment consisted of a small vertical incision about a half inch in depth, and a half inch in length, made with a guarded bistoury, which gave vent to a free flow of pus—pale yellow, thin, and free from odor. Four ounces in all were evacuated. Relief to all of his distressing symptoms was immediate. The contents of the abscess were evacuated (as in the previous case reported by me[1]) two or three times a week by passing a probe into the incision, and pumping out the contents with the finger, pressing from below upwards. This manipulation was employed in six or eight sittings. The

[1] Med. and Surg. Reporter, March 25, 1882.

discharge grew rapidly less, and the pus cavity, which was large, gradually filled up with plastic material, and finally became obliterated.

Remarks.—During the year's service at the Throat Department at Jefferson Medical College Hospital, there have been three cases of retro-pharyngeal abscess under treatment. Two of these were idiopathic, occurring at the respective ages of 24 and 43 years; the remaining case (a colored boy æt. 14, under the care of Dr. Jurist, who kindly allows me to refer to it) appeared to arise in a constitution profoundly impressed from birth with scrofula, which was probably dependent upon congenital syphilis. This latter case died from secondary basilar meningitis, with a suspicion of an abscess at the base of the brain. The autopsy, which was only allowed upon the vertebræ, showed no disease of their structure. The pus cavity between the posterior wall of the pharynx, and bodies of the vertebræ extended above to the basilar process of the occipital bone, and below to a level with the cricoid cartilage. The fact most impressed upon the mind of the writer from the observation of these three cases, was that there was a mistaken diagnosis in every case by the attending physicians. One case was treated with liniments, etc., nearly four weeks for rheumatism of the neck. Another case, (the boy) had many opinions expressed by his several attending physicians, none of which were at all correct. The third case, (reported above) appeared to have been treated for tonsillitis, as well as could be determined from the medicine prescribed—tincture of iron and chlorate of potassium.

These errors in diagnosis, made by good practitioners, appear more surprising to a specialist in diseases of the throat than they do to the general practitioner, because the specialist has peculiar appliances and methods for examination of these affections, which are overlooked by the mass of practitioners; noticeably, a good light and palpation with the index finger well into the pharynx. By palpation in this manner, an abscess can hardly be mistaken after pus has formed. In the judgment of the writer, all cases of retro-pharyngeal abscess, where no disease of the vertebræ is present, give indications of early formation of pus. In all three cases mentioned in this paper, pus had undoubtedly been present for weeks, and had caused, from its accumulation and mechanical interference, a serious train of suffering accompanied by impending starvation, which could have been so readily and promptly relieved. Abscess in this quarter occurs so seldom that the physician is generally off his guard. This fact, coupled with those already mentioned—insufficient illumination, faulty and incomplete examination of the throat—makes the mistaken diagnosis almost a certain sequence.

The treatment consists in prompt surgical interference as soon as pus has formed. The evacuation of the pus can be accomplished best by one of two procedures: evacuation by a small vertical incision as high up as the free border of the soft palate, and not low down at the point of greatest tension, as would be generally selected; or by aspiration, which is a safe and satisfactory method. In infants and children, where exhaustion is always marked, and danger of suffocation from entrance of pus into the larynx imminent, aspiration can be employed with so little risk, and with so much facility, that, in the judgment of the writer, it should supersede all other methods. After the tension of the abscess has been relieved (either by the small vertical incision, or with the aspirating needle) and thereby all risk avoided from the flow of pus, the incision can be somewhat extended, or take the place of the needle. An opening lower down can then be safely made if desirable. The writer does not ever advise a free incision, lest particles of food and drink, or atmospheric air, get into the sac. For the same reason, he prefers the incision high up and very small in extent.

The accumulation of pus can be pumped out from time to time, satisfactorily, with the finger, until the cavity has become filled with reparative material. It is doubtful if any surgical interference from the outside of the oral cavity, made with a view to reach the abscess, is ever justifiable.

Philadelphia, 1417 Walnut St.

MEDICAL PROGRESS.

Acute Primary Retro-laryngeal Abscess.—Dr. Goix concludes an elaborate study on this subject as follows:

1. Acute primary retro-laryngeal abscess consists in an inflammation of the connective tissue in the retro-laryngeal space.

2. Its appearance is characterized by the simultaneous occurrence of fever, laryngeal pain, feebleness and hoarseness of voice, cough, dysphagia, and symptoms of laryngeal stenosis.

3. Normally, when moved from side to side, the posterior edges of the thyroid cartilage may be felt to glide over the vertebral column; this *thyro-vertebral friction* disappears in retro-pharyngeal abscess, but persists when the abscess occupies the retro-laryngeal space.

4. The gravity of this disease cannot be explained by the mere interference with respiration from œdema of the glottis; the inflammatory irritation of the various laryngeal nerves should also be taken into consideration.

5. The best treatment seems to consist in the administration of large doses of tartar emetic and the application of several blisters. If tracheotomy is required by the urgency of the symptoms, the pus should be evacuated, even after this operation.—*Arch. Gén. de Méd.*, October, 1882.

Paget's Disease of the Nipple.—It is of the utmost importance to come to a definite conclusion with regard to the nature of this disease, whether it is primarily of an eczematous nature ultimately terminating in cancer, or whether it is of a malignant nature from the outset, as the treatment, of course, must vary according to the view we adopt. Prof. McCall Anderson has seen a number of cases of this disease and believes that in persons predisposed to cancer, any local irritation may determine an outbreak of the disease at the part irritated; thus we have frequently seen an undoubted syphilitic disease of the tongue followed by cancer of that part, as the result of the long-continued irritation; and just in the same way it is possible for a simple eczema of the breast to prove the exciting cause of, and to be followed by, cancer of the mammary

gland. But if we exclude these exceptional cases, we can arrive at no other opinion than that "Paget's disease of the nipple," is from the first of a malignant nature, and bears a somewhat similar relation to cancer of the breast that the so-called tylosis (or psoriasis) linguæ does to epithelioma of the tongue. Such being the case, it is of the utmost importance to distinguish true eczema of the breast from "Paget's disease of the nipple," towards which the following may be of assistance:

1. "Paget's disease of the nipple" occurs especially in women who have passed the grand climacteric. Eczema of the nipple and areola occurs especially in women earlier in life, and particularly during lactation, or in persons laboring under scabies.

2. Affected surface, in typical cases of Paget's disease, of brilliant red color, raw and granular-looking after the removal of crusts. Surface not so red and raw looking in eczema, and not granular, but often punctated.

3. When grasped between the thumb and forefinger, superficial induration often felt, in Paget's disease, as if a penny were laid on a soft elastic surface and grasped through a piece of cloth (Thin). Eczema is soft, and no induration.

4. Edge of eruption abrupt and sharply cut, and often elevated, in Paget's disease. Edge not so abrupt, and not elevated, in eczema.

5. Paget's disease is very obstinate, and only yields to extirpation or other treatment applicable to epithelioma generally. The other disease, although sometimes obstinate, yields to treatment applicable to eczema.—*Glasgow Medical Journal*, October, 1882.

Resection of the Hip under Antiseptic Precautions.—Boeckel (*Gaz. méd. de Strasbourg*, 1, 1882) advises resection in suppurative hip disease in cases where the patient is failing, and in the non-suppurative cases where crepitation is marked. If the external surroundings of the patient are good, in suppurative cases he advises incision, emptying of the pus, and drainage. The indication is the same in acute osteo-myelitis and ostitis juxta epiphysaria. He favors subtrochanteric incision, and removal, as far as possible, of the fungous synovial membrane and clearing the acetabulum. The external incision is not sewed. Extension is to be applied for several weeks. At the end of four to six weeks the patient is allowed to get up, extension being applied at night, crutches and a raised shoe on the well foot being used in the daytime. In from three to four months the limb can be used. The author reports a small number of cases, but with good result.

Grosch (*Centralb. f. Chir.*, 14, 1882) has collected one hundred and sixty-six cases of this operation, done under strict antiseptic precautions. In presenting the cases he has grouped them under heads corresponding to the condition of the joint at the time of the operation. The first stage he classifies as that where the pathological change is slight, and where the suppuration, slight in amount, has not worked to the outside. In the second stage fall those cases with extensive suppuration and established fistulæ. The third class comprises those patients who have become much reduced by prolonged and extensive disease. Out of one hundred and twenty cases watched to the end, forty-four died, a mortality of 36.7 per cent., a percentage which corresponds with that of Guy's Hospital, Volkman's klinic, or the Copenhaven clinique, and is lower than Culbertson's tables taken from cases not all treated antiseptically, and is much lower than Leisrink's mortality before the introduction of the antiseptic method, 64 per cent. Furthermore, dividing the cases into two groups, those occurring between 1870 and 1875, during the apprenticeship of the antiseptic technique, the percentage of mortality was 9 per cent higher than since that time. The mortality in the first stage of the disease among children was 0 per cent., in the second stage 24.1 per cent., and in the third 67.5 per cent. Antiseptic dressings do not seem to have effected any change as to the usefulness of the cured limb as compared to that before the method was introduced. This is a matter which is not yet definitely settled, but a number of cases were established where an almost normal usefulness of the limb remained unimpaired many years after the operation.

Where, during the operation, perforation of the acetabulum occurred, the percentage of mortality increased twenty per cent.

The writer further found that the duration needed for recovery was not influenced by the antiseptic method of dressing, but it gave a greater immunity against wound complications.—*Boston Medical and Surgical Journal*, October 12, 1882.

Resection of a Carcinomatous Pylorus.—Dr. Eugene Hahn reports the case of a woman aged 63, in whom he excised the pylorus for a cancerous tumor. Billroth's method of operation was followed in all its details, with the exception that he employed the Lembert suture in preference to the method advocated by Czerny, while he adopted the plan of Wölfler, in passing the first sutures through the posterior wall and fastening them on the mucous surface, thus reducing the difficulty in applying the final sutures. Four days after the operation the patient was still doing well, no elevation of temperature being present, and the vomiting which was troublesome on the day after the operation having been relieved; but on the seventh day violent vomiting again appeared, and the patient died under the symptoms of peritonitis from perforation. At the autopsy several of the sutures were found to have given away.—*Berliner klin. Woch.*, Sept. 11, 1882.

Cases of Removal of a Portion of Intestine.—Dr. Wm. Fuller reports in the New York *Medical Record*, Oct. 14th, three cases of partial intestinal resection for strangulated hernia; recovery took place in all.

Cholera and Filth.—The exact nature of the relation between cholera and filth is a subject admitting of speculation and discussion, and the question will not be satisfactorily solved until the precise cause of cholera has been demonstrated; but of the reality of the relation as a matter of fact there can be no reasonable dispute. Strong evidence exists in Calcutta which goes to support the doctrine that, whatever the nature or cause of cholera may be, filth has much to do, if not with its origin, certainly with its propagation—filth in air, water, and food; filth due to neglected conservancy; filth consisting mainly of the decomposing excreta of men and animals. The history of cholera in this town points to a marked abatement of the disease coinciding with important sanitary improvements, more especially with the introduction of a supply of pure water and its distribution in such a manner as to prevent contamination in transit. The most important fact shown by the report of the Health Officer of Calcutta, is that the sections which exhibit the lowest general death rates are those in which the sanitary conditions are most favorable, in which the streets are widest and best kept, the houses largest and sparsest, the drainage most complete and efficient, pure water universally used, and the inhabitants most observant of the rules of hygiene, domestic and individual; while on the contrary the sections with highest death rate are the most crowded and filthy, with narrow, muddy

streets often heaped with refuse and rubbish, foul pits and ditches, ill-kept stables and byres, wells and tanks filled with diluted sewage, with numerous *bustis* or villages ill-ventilated, over-crowded, and filthy, in which the poorer classes, ignorant and careless as regards cleanliness, mass themselves together in poverty and squalor.—*Indian Medical Gazette*, Sept. 1, 1882.

Prolapse of the Large Intestine; Resection; Death.—Prof. Auffret, of Brest, reports the case of a young woman, aged 25 years, with marked rachitic deformities of the limbs, who had for three years suffered from obstinate constipation, to overcome which she was in the habit of using all sorts of cathartics and injections. On the 26th of October, after prolonged straining she had a prolapse of the large intestine, about 35 cm. in length, which it was impossible to replace by taxis. On the following day, the prolapsed portion of the bowel was excised, and the divided end of the large intestine united by catgut sutures to the mucous membrane of the large intestine just within the anus. The patient died of collapse during the night after the operation.—*Le Progrès Médicale*, Aug. 26, 1882.

Comparative Action of the Bromides.—MM. Chéron and Fouques, having experimented at some length with the three well-known bromides (of potassium, sodium, and ammonium), have reached the following conclusions: These salts act, in virtue of their bromine, as moderators of the reflex centres. The bromide of potassium joins to its sedative action on the nervous centres a depressing action on the muscular system; it is thus a *neuro-muscular* agent. The bromide of sodium has an action like that of bromide of potassium on the nervous centres, but does not affect the muscular system; it is thus simply a *moderator of reflex action*. The bromide of ammonium has, in virtue of its bromine, an action on the nervous system similar to that of the other two, while it is also, in virtue of its ammonia, an excitant and diffusible; it is thus at once a *moderator of reflex action* and a *peripheral excitant*. Consequently, when it is desired to influence the reflex powers and the muscular system, preference should be given to the bromide of potassium; if, however, we wish to act only on the reflex centres, the bromide of sodium is indicated; finally, if, leaving the muscular system out of consideration, it is desired to act on the nervous centres, to restrain the circulation and to effect a diminution in bood pressure, the bromide of ammonium will most probably give the required result.—*Glasgow Medical Journal*, Oct. 1882.

The Significance of Koch's Discovery.—In a recent letter to the Berlin Reichgesundheitsamte, Prof. Billroth discussed some of the practical aspects of Koch's discovery. He pointed out how the accumulating knowledge of the coarser pathological relations of tubercle have led to the conviction that the discovery must shortly come, and he paid a tribute to the investigations of Villemin, as having constituted the first and greatest step in the discovery—the step of demonstrating that tubercle is inoculable. This proved its dependence on a transferable virus, although we are only now able to eliminate the possibility that the virus might be of simply chemical nature. The various degrees of individual proclivity to suffer, observed in man, render it very important to study the variations of proclivity which are observed in animals. As a rule, it appears that the carnivora are less susceptible than the vegetable feeders (an unpleasant fact, by the way, for vegetarians). In the case of man, the only safeguard is the normal unsuitability of the soil, apart from the existence of inherited fitness. But another reason why local tubercle often exists without general infection—why, for instance, scrofulous caries of a rib so often exists without a general infection—is due to mechanical conditions. At the periphery of such a tubercular focus, in a bone or a lymphatic gland, there is an induration which probably hinders the exit of the tubercular organism and its passage into the blood current. The necessity of a high temperature, such as that of the blood, for the growth of the organism, probably lessens very much the extent of the disease in man, since, if the germs could develop out of the body, they would probably be ubiquitous. While the discovery of Koch raises even into greater importance than before the inherited predisposition, it will probably lead to some modification of our views as to the influence of that predisposition. Cases may be due to infection which are regarded as the result of inheritance only. A consumptive mother, for instance, may infect a child through a pocket handkerchief; moreover, the germs may be received by eating the flesh of infected animals. Certainly the conclusions are sufficiently probable to make it incumbent on us to treat consumption as in a measure an infectious disease.—*Practitioner*, October, 1882.

New Method of Treatment of Hypertrophy of the Tonsils.—Prof. Moresco, of Cadix, read a paper before the Congress of Seville (*Revista de Med. y Cirurgia pratica*) in which he recommended the treatment of hypertrophy of the tonsils by interstitial injections of acetic acid: he reports two cases perfectly cured by this method. He gives the following as the advantages of his method:

1. Its facility of performance.
2. The impossibility of causing any serious results.
3. The gland preserves its functions.
4. It requires no interference with the patient's occupation.
5. It is absolutely painless.—*Rev. Mens. de Laryngol., d'Otol. et de Rhinol.*, Oct. 1, 1882.

Spontaneous Rupture of the Uterus.—M. Salin (*Sw. Läkare Sällsk. Förhandl.*) reports the case of a woman 33 years old who had already had one child, with normal labor. The last menstruation occurred in August, 1881. She was in good health throughout the whole pregnancy. On the 9th of March she had pains simulating labor-pains, but was yet able to work. The next day in the evening she was seized with severe pains, which became more intense after a rectal enema, and so continuous and violent that she moaned loudly and without ceasing. There was slight hemorrhage from the vagina. The pulse was small, 130 to 140. Temperature in rectum 38° C. The abdomen was distended and tender, tympantic in its upper part, and there was dulness in its lower part. Fœtal parts could be felt around the navel, but it was impossible to perform palpation in consequence of the great tenderness. The canal of the cervix was sufficiently open to admit the finger. Immediately within the os internum it came in contact with a large fœtal part. Death occurred on the third day.

The autopsy revealed a rupture of the uterus at the fundus, through which the fœtus had escaped into the peritoneal cavity, the membranes remaining unbroken. The fœtus was in the eighth month. It was at first supposed that the rupture was due to some change in the muscular structure of the uterus, but subsequent careful microscopic examination of the parts showed that no change whatever had taken place in the uterine muscular tissue.—*Louisville Medical News*, October 14, 1882.

Resection of the Long Bones.—Mr. Arthur Neve reports three cases of resection of the long bones,

and urges that when necrosis of a long bone is an accomplished fact, the surgeon should operate at the earliest possible period, as he will thus substitute rapid repair for slow separation, healthy granulation for sloughing and suppuration. He would urge that the removal should be thorough, even bold; the re-formation of a considerable portion being easier than the casting off of a small sequestrum. When this practice becomes general we shall, he believes, see fewer deaths from hectic, and text-books will discuss at less length the subject of amputation after necrosis.—*Indian Medical Gazette*, September 1, 1882.

A SIMPLE METHOD OF INTRODUCING MEDICINAL SUBSTANCES INTO THE MIDDLE EAR, AND OF MAKING APPLICATION TO THE NASAL MUCOUS MEMBRANE.—M. PURICELLI (*Rundschau*, No. 7, 1882) recommends, in order to retain substances in contact with the nasal mucous membrane, that the patient should pronounce the vowel A, at the same time throwing the head back and breathing through the mouth, thus preventing all communication between the nasal fossæ and pharynx.

If the patient pronounces R while a stream of air is forced through the nose, the liquid will penetrate to the middle ear.—*Rev. Mens. de Laryngol., d'Otol. et de Rhinol.*, October 1, 1882.

A NEW CAUSE FOR MERCURIAL POISONING.—Two cases having recently come under our notice in hospital practice of mercurialism in men employed in exhausting the little globes used in the incandescent system of electric lighting, we think a brief notice of the fact will be interesting, and may perhaps call forth more information from others. In each instance the gums were swollen, spongy, and tender, and there was salivation. The patients were employed in the same room, and both knew that mercury was the cause of their ailment. So far as we could gather from their account, the poisoning must have been due to mercurial vapor from the exhausting pumps, as no mercury was used except that contained in these pumps. From the statement of one of the patients we should infer that all those employed in the room would suffer from these symptoms, and have to give up the work in less than a year.—*Med. Times and Gazette*, October 7, 1882.

FIBROMATA AND CYSTO-FIBROMATA OF OVARY.—DR. H. A. COE draws the following deductions from a study of this subject:

1. Fibrous tumors may, and do, arise from the ovary, independent of the uterus or the other adnexa.

2. In structure these tumors are true fibromata, yet peculiarly rich in long spindle-cells, which closely resemble those of the normal stroma; hence,

3. These fibromata originate, not by a local change, but as the result of a general hyperplasia of the ovarian stroma. Moreover, there is nothing to show that this process is of an irritative, or inflammatory, character.

4. The resemblance between microscopic sections of ovarian and uterine fibroids is so close that the differential diagnosis is very difficult, if not impossible.

5. Cysto-fibromata of the ovary, like those of the uterus, are of secondary formation, and result from changes in previously solid tumors.

6. Such cysts probably arise from the so-called "geodes" or "gelatinous patches."

7. These "geodes" do not represent any form of degeneration at all, but are dilated connective-tissue spaces, filled with a coagulable serous fluid, resembling lymph.

8. The "geodes" are probably dilated lymph-spaces, which expand by reason of the accumulated fluid in their interiors—a condition due to a general stasis.

9. That *lymph-spaces* rather than *lymph-vessels* are the seat of these changes is evidenced by their irregular shape, intimate relation with the surrounding tissue, manner of dilatation, and absence of endothelial lining. But that the proper vessels may also dilate in like manner is not improbable. (Comp. the "Ampullæ" observed by Leopold.)

10. Simultaneously with the lymph-stasis, there often exists a disturbance of the blood circulation, giving rise to œdema, extravasation, and various local changes, but these are factors in the *subsequent growths*, *not* in the *origin* of a "geode."

11. Commencing cysts grow by increase of the contained lymph, by accessions of blood and serum from adjacent vessels, and by degeneration of the surrounding tissue.

12. At no time in its history does a cyst possess a proper wall, since what at first appears to be such is merely the surrounding fibrous basis of the tumor, condensed by long pressure. A cellular lining upon the apparent wall of a fully developed cyst (originating like those referred to in this paper) is certainly very rare in a young growth, and highly improbable in the case of one of advanced age.

13. The fluid found in these cavities has originally the properties of lymph, but becomes so changed by intermixture with other elements, that its examination for clinical purposes does not furnish positive results.

14. The *ultima causa* of dilatation of the lymph-channels and consequent cyst-formation in fibroid tumors is unknown. Clinical observations lead to the inference that, in many cases, the active influences are *within* the growth itself.—*Amer. Journ. of Obstet.*, October, 1882.

FORCED FEEDING.—Recognizing the value, and at the same time the inconvenience attending the employment of forced feeding by the method proposed by M. Debove, M. DUJARDIN-BEAUMETZ has been making a number of experiments looking towards an improvement in the methods employed. In the first place, he finds that it is not necessary that the tube should penetrate the stomach; all that is necessary is that the tube should enter the upper part of the œsophagus, when the food can be forced into the stomach by pressure and efforts at deglutition on the part of the patient. It is also advisable to use a smaller tube than that employed by M. Debove. He recommends the administration of fluids by means of hydrostatic pressure.—*L'Union Méd.*, September 17, 1882.

A NEW SIGN OF PREGNANCY.—In the first two months of pregnancy there exists no sign which can be called diagnostic; JORISENNE (*Arch. de Tocologie*, June, 1882) seems to furnish one. Long ago Graves formulated the law that in cardiac hypertrophy the radial pulsations remain constant, whatever the position of the body. Starting with the assumption that in pregnancy there exists an hypertrophy of the heart (and this assumption, if erroneous, will not affect J.'s results), he has found that, whilst in health there is a variation of from ten to twenty beats in the radial pulsation, according as the body is upright or horizontal, in pregnancy, no matter what the position, the beats number the same. J. has been able to diagnosticate pregnancy as early as the first month when no other sign except the missing of a menstrual period was present. When examining a patient for this sign, it is necessary to proceed with deliberation, first counting the radial for the space of fifteen seconds whilst the patient is standing, then sitting, and then reclining. The order may then be reversed, and uniformly the same number of beats will be recorded. J. promises an explanation of this phenomenon in a future paper.—*American Journal of Obstetrics*, October, 1882.

Case of Gastrostomy.—The patient recently operated on by Dr. Felizet is now convalescing, and the Paris correspondent of the *Lancet* gives the following account of the case. On September 10th, a young Swiss man, aged 19, was amusing the customers of the *café*, where he was employed, by introducing a long spoon, such as is used for stirring coffee when served in glasses, into the œsophagus, pushing it as far down as he could and then withdrawing it. The performance was brought to an abrupt ending by the spoon slipping out of his fingers and disappearing down the alimentary canal. The following morning he was seen at the hospital by M. Felizet. Palpation revealed the existence of a foreign body, which projected in the left hypochondrium. Pressure upon this spot was painful, and caused a pricking sensation below the liver. The patient complained also of a feeling of constriction in the epigastrium, of difficulty in breathing, and of a painful sensation with each movement of the diaphragm. There was a constant flow of saliva and mucus from the mouth. Opium and ice were given to allay the pain, but in spite of this no sleep could be obtained, and bilious vomiting set in. This symptom, together with the patient's anxiety and suffering, decided M. Felizet to operate. In order to lessen the chance of the escape of any liquids from the stomach into the peritoneum, and to manipulate the abdominal organs as little as possible, the following plan was devised: A small India-rubber tube was introduced through one nostril into the stomach. The outside extremity terminated in a Y-shaped branch, upon one division of which was a funnel, whilst the other was in communication by means of a tube with a recipient containing ether. To begin with, the stomach was washed out by pouring a solution of sodium bicarbonate into the funnel, and then depressing the end of the tube below the level of that organ, so as to act as a siphon. The patient was then brought under chloroform and the operation continued with antiseptic precautions. An incision was made seven centimetres long, parallel to and one and a half centimetres below the edge of the false ribs, extending from the line of hepatic dulness, three centimetres below and external to the xiphoid appendix, to a point on the left side on a level with the junction of the ninth and tenth costal cartilages. The sheath of the rectus, and some of its fibres were divided, and the peritoneum exposed. Hemorrhage having been entirely arrested by torsion and ligature, the recipient containing ether was plunged into a vessel of water at 60° Centigrade, and the stomach at once became distended by the vapor, and the peritoneum, being divided upon a director, protruded through the wound. Ten sutures in all were then made to fix the stomach to the abdominal wall, the ether being allowed to escape, in order to ascertain whether the juxtaposition of the surface was complete. One spot appearing defective, the stomach was distended again, and another suture inserted. An incision six centimetres in length was then made in the axis of the wound. After the vapor had escaped, the stomach was found to be perfectly clean and empty. The spoon was felt, lying transversely across the stomach with one end in the pylorus and the other in the greater curvature; it was then extracted without difficulty. After the operation the patient was kept under the influence of morphia by small hypodermic injections. Tea and rum were given as a drink, with small pieces of ice. Antiseptic dressings were applied. The after-effects of the operation were not serious. There was no fever or tenderness of the abdomen. The most distressing symptom was great thirst, but this was relieved most satisfactorily by enemata of cold water. Notwithstanding the dressings, the liquids swallowed passed through the wound. On the fourteenth day, a little milk was given, but this oozed through the dressings, and was not renewed. On the fifteenth some meat was tried, but caused uneasiness. On the first of October, a considerable portion of the wound had healed, and all that remains is a fistulous opening, closed by a pad. The patient eats meat, vegetables, and pastry.—*Lancet*, Oct. 7, 1882.

The Effects of Thread and Round Worms upon Children.—M. Archambault recently made some clinical remarks at the Hôpital des Infants Malades, Paris, on the effects produced by the *Oxyuris vermicularis* and the *Ascaris lumbricoides* in young children. He said one of the smallest and most curious worms, the presence of which causes so much trouble to young children, is undoubtedly in the so-called "thread-worm," the *Oxyuris vermicularis*. This helminthe has its abode in the lowest part of the rectum, just within the anus. It is the cause of a number of troubles, and of very severe itching, which is chiefly nocturnal, and therefore often characteristic of the presence of this particular worm. The itching is sometimes so severe as to make children cry; it prevents sleep, and so gives rise to extreme irritation, which may bring on convulsions. This worm is also met with occasionally in adults, and has, by the intolerable itching to which it gives rise, brought on a veritable condition of hypochondriacism. Another effect, in certain cases, is an inflammation of the rectal mucous membrane, accompanied with tenesmus and muco-sanguinolent stools. In female children the worms may find their way into the vagina, and so bring on a vulvitis, more or less intense, with secondary effects which are most undesirable. Thus, although the presence of these minute worms is not in itself dangerous, yet the secondary consequences may be really grave. Their treatment is as follows: Administer an enema, for five or six consecutive evenings, of lime-water; if this is not sufficient, add—as Dr. West advises—a little perchloride of iron, and the worms will be almost certainly destroyed. Or a mercurial suppository may be tried if the enemata do not succeed. It is very desirable that the enema be properly administered, and in sufficient quantity; it should pass up as far as, or even beyond, the sigmoid flexure, so as to dislodge any worms which may have crept up beyond their usual site. As regards the lumbrici, it may be said that they are harmless ("*asez innocents*"); it is only when very numerous that their presence becomes dangerous. M. Archambault was once called to see some children who had just arrived from Brazil, and who had been taken ill with convulsions, vomiting, and diarrhœa. Finding in the stools a number of these round worms, he ordered calomel and santonin. An immense number of worms was passed—"it would be no exaggeration to say that the three children in three days passed a hatful of these helminthes." There are so many other anthelmintics than those just mentioned, that the physician's chief difficulty is the *embarras du choix*.—*Medical Times and Gazette*, October 7, 1882.

The Rational Treatment of Anterior and Posterior Uterine Displacements.—At a recent meeting of the Dublin Obstetrical Society, Dr. A. V. Macan read a paper on this subject, of which the following are the conclusions:

1. The normal position of the uterus when the bladder is empty is one of anteflexion. Hence mechanical treatment of anteflexion is rarely called for, and if symptoms be present our efforts should generally be directed to the cure of the complications.

2. In retroflexions or versions the primary indication is to treat the displacement. In order to do this effectually we should place the uterus in a position of exag-

gerated anteversion, and then fix the cervix posteriorly by a pessary.

3. Hodge's pessary, or any other pessary used for the cure of retroflexion, when uncomplicated with adhesions, should act by fixing the cervix posteriorly, and not by pressing against the fundus and elevating it.

4. Versions are, so far, more serious than flexions, in that they are caused by rigidity of the uterine parenchyma, which is generally due to chronic metritis.

5. To make the results of the bimanual examination of any use for comparison with the results of other observers it must be made in the dorsal position, the bladder having been previously emptied.

6. A great deal of the confusion that exists about the treatment of anterior and posterior displacements originates in its being taken for granted that any treatment that is found suited to an anterior displacement must be equally suited to a posterior one, and *vice versa*.—*Dublin Journal of Medical Sciences*, July, 1882.

VASO-MOTOR PHYSIOLOGY.—The vaso-motor effects which are produced by faradic stimulation of the peripheral segment of the lingual nerve have been lately studied by M. VULPIAN. This stimulation is well known to cause a considerable dilatation of all the vessels of the corresponding half of the tongue in the region in which this nerve is distributed. The experiment is easily performed on a dog under the influence of morphia, or which has been curarized and subjected to artificial respiration. The mucous membrane in this region, and also on the corresponding side of the frænum, becomes bright red, and a similar change may sometimes be observed in the mucous membrane of the gum on the inner surface of the lower jaw near the canine and incisor teeth. The principal vein of this part of the tongue becomes turgescent, and the blood contained in it and its tributaries becomes bright in color, resembling that of arterial blood, while there is a corresponding rise in the temperature of the part. These phenomena are produced sometimes after the lingual artery has been tied, and even after the internal and external carotid arteries of that side have been tied just above their origin, and the carotid itself has been tied in the middle of the neck. Nor are they prevented even by the ligature of the common carotid and the vertebral. The effects are equally marked after the section of the vago-sympathetic trunk, and after excision of the superior cervical ganglion. When the circulation has been definitely arrested, as by the farado-puncture of the animal's head through the thoracic wall, the opposite half of the tongue becomes pale before that on which the lingual has been faradized. Thus the effect of the stimulation is opposed to the occurrence of the constriction of the vessels, which occurs throughout the body almost immediately after death. Another remarkable fact noted by Vulpian is that at the moment when the dilatation occurs, in consequence of the faradization of the nerve, there is a distinct contraction of the vessels on the opposite half of the tongue. It is not merely the result of the determination of blood from one-half of the tongue to the other, but is the effect of a distinct activity of the vaso-constrictor nerves, for there is a distinct darkening of the blood. This condition, however, does not last so long as the dilatation of the vessels on the faradized side. The latter may continue for ten minutes, while the former has disappeared in half a minute. This vaso-constriction appears to be reflex, for it is far less conspicuous if the vago-sympathetic trunk on that side has been previously divided. The lingual nerve seems thus to possess a certain amount of recurrent sensibility, which is manifested by this reflex action when the peripheral extremity of the divided nerves is stimulated. —*Lancet*, Oct. 7, 1882.

THE BACILLUS OF TUBERCULOSIS.—That defective ventilation, or, in other words, vitiated air, is one of the most, if not the most potent factor in the production of tuberculosis, is among the best-established facts of hygiene, however the actual relation may be explained. In the Biological Section of the meeting of the British Association for the Advancement of Science, MR. F. J. FARADAY read a paper entitled "Considerations arising from Koch's Discovery of the Bacillus of Tuberculosis," in which, after referring to the suggestions made by Dr. William Roberts in his address to the British Medical Association in 1877, that disease-germs might be "sports" from harmless saprophytes which had acquired a parasitic habit, and to Pasteur's observations on the decreasing virulence of specific disease-germs when kept in the presence of oxygen, he asked whether deprivation of oxygen might not play an important part in the development of the tubercle-bacillus out of comparatively innocent forms. Dr. Angus Smith has argued that putrefaction carried on in confined spaces, as sewers, may give rise to disease-germs—enteric, diphtheritic, etc.—which are not developed when the same process goes on in the open air and in rivers; and Mr. Faraday thought that analogous conditions might be found in the lungs of persons engaged in dusty trades, working in ill-ventilated rooms, or otherwise habitually respiring imperfectly. Innocuous germs inhaled into the lungs of such persons may there undergo successive cultures in the presence of a reduced amount of oxygen, and thus, in course of time, develop into the specific bacillus of tubercle, which may then be capable of establishing itself in the lungs of healthy persons, provided they be especially susceptible or possess feeble powers of resistance. The decrease in the mortality from phthisis in the army, following on improved ventilation of barracks, the benefit of as many hours as possible spent in the open air, of sea-voyages, and of iodine or carbolic inhalations in phthisis, all seem to lend support to the hypothesis.—*Medical Times and Gazette*, October 7, 1882.

DIPHTHERITIC PARALYSIS.—DR. HENRI LEROUX reports an unusual case of paralysis, consequent upon a comparatively mild case of diphtheria occurring in a boy aged fifteen years. After the angina had lasted a week paralysis of the soft palate was noticed, and a month later there was marked ataxy of both upper and lower limbs, but without paralysis and with no loss of sensibility—loss of coördination being the marked feature. The muscles acted well with the induced current, but the patella reflex was absent. Dr. Leroux believes that the condition could only be explained by some alteration in the nerve-centre for coördinate movements.—*Revue de Médecine*, September 10, 1882.

HYGIENE IN HOUSE WALLS.—MR. T. R. BAKER, in a paper read before the Am. Assoc. for Advancement of Science, "On the Permeability of the Linings of House Walls to Air," assumed that ordinary wall paper made the walls nearly air-tight. Hygienically considered, the walls of a house should be porous, like our clothing, so that our bodies can have through them, as also through our clothing, free intercourse with the external air Compact wall linings, even if their minute pores are open, greatly interfere with this intercourse; but if their pores are closed with water, as when the walls are damp, it is almost completely cut off; and such linings increase the dampness of walls by preventing their drying in wet weather. The prolonged dampness also prolongs other evils produced by damp walls; therefore wall papers and their substitutes should be condemned, and the old-fashioned whitewashed walls commended.—*Popular Science Monthly*, November, 1882.

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SATURDAY, OCTOBER 28, 1882.

DEMENTIA PARALYTICA.

THE MEDICAL NEWS expressed the opinion, long in advance of the microscopical examination, that Guiteau presented the symptomatic type of dementia paralytica. The only alienist, so far as we are aware, who announced the same view was Dr. Folsom, of Boston. Under the overshadowing pretensions and loud declamation of the experts for the defence, the theory of reasoning mania, or, as they, with a fine sense of the effect of erudition, are delighted to entitle it *primäre Verrücktheit*, came to be held by all the followers of these noisy neurologists. As we have had something to say regarding the relation of such a mental condition to criminal responsibility before the law, it will be desirable to place before our readers the modern conception of this strange malady. Beside these circumstances, by which the present attention of physicians is directed to dementia paralytica, this malady deserves attentive study, because of the frequency of its occurrence, the sad complications to which it gives rise, and its gloomy termination.

Dementia paralytica is a term which correctly expresses the morbid complexus, consisting of mental failure with paralytic symptoms. It is more commonly known as "general paralysis of the insane," and from the pathological standpoint has been designated "diffused interstitial encephalitis." The morbid anatomy consists essentially in an atrophic degeneration of the gray and white substance, the initial change occurring in the walls of the capillaries and in the perivascular lymph spaces, and the final result being wasting of the brain. It is not now necessary to our purpose to enter with more particularity into the morbid anatomy, as we are more concerned with the symptomatic development.

One of the early symptoms, objectively regarded, is a hesitancy of speech, accompanied by tremors of the tongue and lips. Coincidently, or preceding the speech defects, changes in the character become manifest, such as irritability and a quarrelsome disposition, not in accordance with their former history. After this, expansive notions begin to be entertained and wild projects are undertaken. Or if melancholic, the same vast notions dominate, and their miseries are the most abject which have ever befallen men. In the further progress of these cases, attacks of wild excitement—of homicidal fury, for example—now and then occur. The physical failure proceeds apace with the mental. As the motor and mental centres of the hemispheres and the white matter undergo the granular and atrophic degeneration, the difficulties of speech continue, words are forgotten and omitted from the speech, the tongue and lips tremble more and more, and the paresis of the extremities gives rise to a peculiar, shambling gait. Inequalities of the pupils, impaired vision and hearing, excite hallucinations connected with these senses, which participate in the delusions of grandeur now uppermost in the feeble mind. Thus with a condition of dementia, and paralysis, most obvious to all, these unfortunates have an aspect of gratified vanity, feel equal in mental power to the greatest names in history, and have the strength of giants. If the ideas of melancholy predominate, the same contented expression, the same unprecedented misery, the same immensity of grief are expressed. Finally, the speech is unintelligible jargon, or a mere formless mumbling, the body is emaciated and paralyzed, and life is ultimately extinguished by respiratory paralysis and mechanical pneumonia, if not previously ended by some intercurrent disease which, fortunately enough, frequently happens.

Notwithstanding that dementia paralytica is often an inherited malady, it may be produced under conditions which determine cerebral exhaustion. For the benefit of those of our readers engaged in study or arduous mental toil of some kind, it may be stated that such subjects are not given to this malady. Besides heredity, the trinity of evil causes are venery, syphilis, and alcohol. If these combine with heredity, the danger of producing the malady is proportionally great. As regards heredity, dementia paralytica must be regarded as the offspring of the family of neuroses rather than as the transmission of a special malady. The neurotic constitution is one from which any form of nervous disorder may spring—the peculiar direction taken by the inherited tendency being determined by the conditions surrounding the subjects of the inheritance.

The timely recognition of dementia paralytica is

of the utmost importance, not so much from the therapeutical point of view as the moral and social. The condition of such subjects must be understood in time to prevent the outbreaks to which they are liable; to prevent the complications growing out of extravagant ideas and the waste of property; to prevent the family estrangements and miseries of atrophied or forgotten affections and family ties, and to obviate the various social and business troubles produced in the circle of a man's relations who has become the unfortunate victim of this terrible disease.

Thus far the treatment of this fell disease has not been successful. Rarely, cases convalesce and are restored finally to their families and to society. In many examples of the disease remissions take place very unexpectedly, and a cure seems about to result, but after a time the symptoms become more aggravated. These facts, however, should stimulate the profession to greater efforts to find a curative agent. A few years ago Dr. Crichton Browne, of the West Riding Asylum, announced some very promising results from the administration of physostigma, but they have not been confirmed by others. Phosphorus and cod-liver oil and the phosphites and phosphates have been used with apparently good effects. We are yet, however, far from a curative remedy, and hence he who contributes it will confer an immense boon on the human race.

THE CLINICAL TEACHING OF OBSTETRICS.

THE recent trouble created by the action of a member of the obstetrical staff of one of our large hospitals, in bringing into the amphitheatre a patient in labor, and delivering her with the aid of forceps in the presence of the class, illustrates very well the manner in which many excellent people are misled by sentiment in matters which should be viewed in the light of experience and of common sense.

Of course, there may be circumstances under which, in consequence of the condition of the woman, or on account of the surroundings of the lecture-room itself, such a procedure would be manifestly improper, and with these, either in this particular case or in general, we do not propose at present to concern ourselves. It may be taken for granted that they will be considered and respected by every careful and practised obstetrician.

With the view, however, which condemns such methods of teaching on account of the "exposure" and "humiliation" of the patient, we do decidedly and unequivocally take issue. Its advocates ignore, on the one hand, the usual condition and mental or moral tone of pauper patients, which, however much theoretical equality is preached, are unavoidable factors in all such cases; and, on the other hand, forget the great benefits, present and prospective, which accrue to the community from successful and practical clinical teaching.

It is a fact which every lecturer of experience can substantiate, that when the necessary exposure is made with delicacy, and only to the required extent; when the explanatory remarks bear directly upon the condition or process to be illustrated; and when due regard is had to the comfort and safety of the patient, the latter rarely objects to being the subject of a clinical lecture. This is true, not only of obstetrical, but of all other forms of clinical teaching. The patient with typhoid fever, whose abdomen is carefully examined; the patient with venereal trouble, who, brought before the class with covered face, is inspected or interrogated; the patient with lacerated perineum, who, etherized in another apartment, is operated upon in the clinic-room; none of these object, in the vast majority of instances, to the accompanying exposure, realizing, doubtless, the force of that professional instinct which extends to physicians and students alike, and which renders suffering humanity sexless and sacred.

Such patients in large numbers depend each year upon the charity of every great city, and the gratuitous labors of the most eminent medical men. It is but just that they should repay, so far as possible, the obligations under which they voluntarily place themselves. Clinical teaching—instruction given in the presence of the disease or of the process which is to be elucidated—has long since taken a front rank among the means of imparting medical knowledge, and has largely superseded the old didactic methods. To those colleges and hospitals, and to those localities where such teaching prevails, students are now coming in great numbers—literally in thousands—and add largely to their prestige, their renown, and their material wealth.

Among the multitude of women who suffer with the various ailments peculiar to their sex, a large proportion, perhaps the majority, can trace the causation of their troubles to some accident, delay, or abnormality of labor. It is true that parturition is a physiological process, but that only increases its importance by adding to its frequency as compared with pathological conditions. Certainly in our time, under the circumstances of modern civilization, it requires to be carefully and intelligently superintended or assisted. Every possible parent is directly interested in having the medical practitioners of the future thoroughly instructed in all its details and dangers. Whatever tends to this end tends to the relief of suffering, the prevention of disease, and the preservation of life among the women and infants of the present and of coming generations.

To allow a sentiment, praiseworthy in itself, but here misapplied and not participated in by those in

whose behalf it is evoked, to interfere with such a humanitarian work, is to substitute personal feeling or prejudice for that calm judgment, which, while strictly respecting all personal rights, keeps steadily in view the essential object of securing the greatest good for the greatest number.

In the case in question, Dr. Warder, one of the staff of the Philadelphia Hospital, having begun his morning clinic in the amphitheatre of that institution, on Wednesday, October 11th, was informed by his resident that a colored woman in the obstetrical ward had been in labor for nine hours, that the os was widely dilated, but that the head refused to engage, and was asked for instructions. He directed that she should be etherized, carefully covered, and brought on a stretcher to the clinic-room. This was done, the circumstances of the case were explained to the class, the forceps were applied, and the woman safely delivered and removed to the ward. She has since died of puerperal fever, but unfortunately such deaths are not uncommon in the obstetric wards, and no inference associating the circumstances of the delivery and the termination of the case is warranted.

The Hospital Committee of the Board of Guardians, a newly appointed and most excellent and efficient body, passed a resolution recommending to the Board the dismissal of Dr. Warder, on account of his action, but subsequently modified this, after receiving a unanimous protest against it from the Medical Staff, to a resolution of censure. This was submitted to the Board at their stated meeting, Monday, October 23d, and addresses were made by various members of the Medical Staff. It was clearly shown that no rule of the Board or of the staff forbade the procedure; that no additional risk had been incurred in either the removal or the exposure of the patient; that the application of the forceps was imperatively necessary; that puerperal fever had recently caused several deaths in the obstetric wards; and that the fatal termination of the case was clearly due to infection derived from the latter source. After this the resolution of censure was voted upon, and rejected by a vote of eight to four. In the light of all the circumstances and of the expert testimony, this action was so clearly right that it seemed unavoidable, but hospital boards are sometimes disappointing in these respects, and it is especially to be noticed and commended that two of the committee recommending the motion, convinced of its injustice by the arguments of the Medical Staff, were manly enough to vote against it

It may be said, in conclusion, that this case is by no means an exceptional one. It has been the custom for years in all the large hospitals and schools on the Continent to give this kind of instruction whenever possible. Scanzoni at Wurzburg, Martin at Berlin, Braun and Spaeth at Vienna, and Dubois at Paris, have demonstrated clinically the use of the forceps, version, craniotomy, and other obstetrical operations before large classes. In New York, Isaac Taylor and Fordyce Barker at Bellevue, and Gillette at the Charity Hospital, Reamy at Cincinnati, and White at Buffalo, have done likewise, and in the Philadelphia Hospital itself the late Dr. Parry, one of the most esteemed and lamented, and one of the most conservative of Philadelphia obstetricians, has used the same room for the same purpose. Dr. Warder himself on a previous occasion, and without censure, had delivered a woman in the amphitheatre. No rule of the Board or of the Medical Staff forbade it, and no evidence was offered that evil resulted from it.

We have already given the general reasons applicable to this as to all similar cases why such teaching is greatly to be desired by the profession, the community at large, and particularly by poor women, who, in truth, are the greatest gainers by it, as they are the greatest sufferers on account of its neglect.

POST-GRADUATE INSTRUCTION.

In a recent editorial based upon the proposed establishment of a school for the instruction of graduates in medicine, the *Medical Record* takes occasion to claim for New York, which it modestly alludes to as the "acknowledged medical centre," the priority in this kind of teaching, and then very ably and properly calls attention to the importance of the subject. The question of local pre-eminence, considered from a medical standpoint, may safely be dismissed as one not to be profitably discussed or satisfactorily solved. Possibly Philadelphia, with the oldest and largest medical schools of the country, with their long list of alumni who have attained world-wide celebrity; or Boston, with its time-honored University, among the first to adopt and to sustain at great pecuniary risk the more advanced methods of medical education, might be thought to have claims in this direction; but they speak for themselves.

Far be it from us to decry or in any way to depreciate the admirable colleges, distinguished teachers, and large clinical facilities which give to New York such advantages, for all forms of medical instruction. We are each of us interested directly and personally in any attempt to elevate the general standard of professional attainments in this country, and particularly in any effort which will enable the hundreds of practitioners who, having graduated with imperfect preparation for the heavy responsibilities of their profession, having had no experience in the use of instruments of precision, having possibly never listened to a heart-murmur or felt the

crepitus of a fractured bone, to supplement these deficiencies and to acquire at least the special knowledge which they have found themselves most in need of. Individual courses designed to furnish this kind of instruction have for a long time been given at Harvard, at Bellevue and other New York schools, and at the Jefferson Medical College and at the University of Pennsylvania. More than a year ago at the latter institution they were organized into a separate curriculum with special fees at a reduced rate and with the almost entire substitution of clinical for didactic teaching, and have been markedly successful. The "poly-clinic" which is about to be put in operation in New York differs only, as we understand it, in not being connected with any existing medical school, and is deserving of the warmest support and encouragement.

We can all afford, without regard to questions of locality or of priority, to further any enterprise which aims to place within the reach of every hard-worked physician an opportunity to improve himself with the least expenditure of time and money. Such men do not need or desire to sit again on the benches and listen to lectures upon general questions of medicine. They have discovered their weak points by hard experience, often distressing to themselves, sometimes disastrous to their patients, and are impelled to remedy them as much by a conscientious wish to be thorough and capable of doing the greatest good as by any other motive. In whatever part of the country and under whatever auspices, such enterprises, when conducted by competent men, should command the hearty sympathy of the profession.

VARIABILITY IN THE STRENGTH OF THE ACONITIAS OF COMMERCE.

IN the issue of Squibb's *Ephemeris* for September, we find an exhaustive research by the accomplished Editor, on the various kinds of aconitia to be found in commerce. He refers to four specimens: To an ordinary commercial specimen of unknown source; to two prepared by Merck, of Darmstadt, and one by Duquesnel. The last mentioned was the only crystallized preparation. The relative strength of these four specimens of aconitia, as compared with one grain of good aconite root in powder, is as follows:

One grain of the aconitia of unknown source, was equal to one grain of the powdered root; $\frac{1}{8}$ grain of Merck's ordinary aconitia is equal to one grain of the powdered root; $\frac{1}{83}$ of Merck's ordinary aconitia from *A. ferox* was equal to one grain of the powdered root; $\frac{1}{111}$ grain of crystallized aconitia was equal to one grain of powdered root.

The test recommended by Squibb is the physiological one of taste, which he regards as superior in delicacy and vastly more readily applied, than any chemical reaction. If a preparation of good aconite root is placed on the tongue, in a short time a peculiar sense of tingling and numbness is felt at or about the point of contact. By having solutions of definite strength to bulk, it is perfectly easy to apply this test with certainty. The quantity of the preparation necessary to produce the reaction, and the time in which it is developed, are the points to be compared. As a result of his investigation, he concludes that a "well-made fluid extract of aconite root, made by repercolation with alcohol alone, from good root, is the best and only preparation needed."

Squibb seems inclined to regard aconitia as the only alkaloid of *Aconitum napellus*. *Napelline*, which has lately been brought forward, as our readers will probably remember, is therefore a decomposition product produced by the splitting up of aconitia, during the process of extraction. The alkaloid, known as *Pseudaconitine*, obtained from *Aconitum ferox*, is different from the aconitia of *A. napellus*. These facts afford additional reason for adopting the suggestion of Squibb, to obtain for medical uses a well-made tincture or fluid extract of good aconite root.

SANITARY INSPECTION OF SEA-SIDE RESORTS.

"IN time of peace prepare for war" is an adage of the statesman, and the New Jersey Board of Health evidently believe it to be equally true in sanitation. Accordingly, they have begun now a sanitary inspection of the sea-side resorts which line almost the entire Atlantic coast of the State.

None too early have they done so. Long Branch, Seabright, Ocean Grove, and other summer resorts have obtained unenviable notoriety during the past year by their cases of typhoid and typho-malarial fevers. The soil of the whole Atlantic border of the State predisposes to a bad sanitary condition. It is so porous that almost so soon as the population of any mushroom town has grown big enough to have a post-office, the lots have shrunk to a size that endangers the well-water either from the owner's own or from his neighbor's privy-well. Even if this be not the case, the soil itself soon becomes so saturated with decaying filth that it is a serious source of danger. Until, then, a water supply by expensive "water works" and a disposal of sewage by a well-planned sewerage system are both in operation, every year must add to the dangers to health and life. All this too, be it observed, in addition to the many defects in the drainage of the individual mammoth hotels—defects which, even in such wholesome spots as the White Mountains, may develop typhoid and other equally dreaded forms of disease.

Every summer Philadelphia and New York pour

forth upon the Jersey coast an almost heedless multitude, like the locusts of Egypt for numbers, and each year the crowd is increasing, both in number and in length of sojourn. The Board of Health, acting in the interest of both the hosts and their patrons, have begun a needed work. Not one of these resorts should escape a thorough overhauling, both in the general municipal hygiene and in the local arrangements. The summer visitor is worth more to New Jersey than any other crop. Let heed be taken lest the crop fail.

While on New Jersey matters, let us call attention also to the spurious economy of the town of Paterson. Following a smallpox "scare," the town established free vaccination, as was most judicious; but instead of procuring a reliable virus, they obtained it from a very doubtful source Fortunately, no bad virus seems to have been furnished, but only a worthless article. But none the less will it probably cost not a few lives since smallpox has again appeared, and it will involve more expense than if vaccination had been well done at first, for now it has all to be done over again.

SOCIETY PROCEEDINGS.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Tenth Annual Session, held at Indianapolis, October 17, 18, and 19, 1882.

The Tenth Annual Session of the American Public Health Association at Indianapolis, Ind., was opened on the morning of October 17th, the President, Prof. R. C. Kedzie, of Lansing, Mich., being in the chair. About sixty members were present. After prayer by Rev. E. H. Bradley, the first business brought before the Association was a report presented by Dr. Gihon, of the Navy, from the Committee on

A NATIONAL MUSEUM OF HYGIENE,

It announced the establishment of a sanitary museum at Washington, under the direction of the Surgeon-General of the Navy, who obtained from Congress an appropriation of $7500 for that purpose, and recommended the appointment of a permanent Committee on the National Museum of Hygiene, to be the medium of communication between the Surgeon-General of the Navy and the Association. In the course of the report it was stated that it was not proposed to make the library a large collection of unread books, the only use of which would be the production of a huge catalogue. Upon this Dr. Billings remarked that the language seemed uncalled for, and had probably been used inadvertently. He hoped that in forming the proposed museum and library it would not be considered expedient to attack other departments of the Government, and especially the Library of the Army-Medical Department. The Library of the Surgeon-General's office at Washington already possessed all books and journals pertaining to Hygiene, but it would be very glad to see other libraries do the same. Upon this the offensive clause was at once stricken out by Dr. Gihon, and the report thus amended passed without dissent.

The next business was action upon several

AMENDMENTS TO THE CONSTITUTION,

which had been proposed at previous meetings. The first of these amendments provided for the division of members of the Association into active and associate members. The active members form the permanent body of the Association, and are to be chosen with special reference to their acknowledged interest in sanitary science, and to the practical applications of the same. The associate members were to be elected only for the year for which they are proposed, and to have all the privileges and publications of the Association, except that they are not entitled to vote.

Dr. Billings moved the passage of this amendment, saying that it was the result of careful deliberation among the older members of the body, and was believed to be essential to its future prosperity and success. Under the constitution, only those known as sanitarians could be admitted to membership, and it was not desirable that this should be changed, if the dignity and influence of the Association were to be preserved.

The first paper on the day's programme was that by Dr. Horatio R. Storer, of Newport, R. I., on

THE NEWPORT (EDINBURGH) SYSTEM OF SANITARY PROTECTION.

Dr. Storer briefly refers to the first conception of the new principle in sanitation termed "protection," which is based on individual organization made collective upon the principle of mutual life insurance, by Prof. Fleming Jenkin, of the University of Edinburgh, in April, 1878, and its immediate introduction into this country, at Newport, R. I., in November of the same year. Four years have now elapsed since the commencement of the Newport experiment, now such no longer. The system had early been successfully copied at Lynn, Mass., and subsequently at Trenton, N. J., Brooklyn, Savannah, Montreal, and other cities and towns. The Newport Association from the outset had labored first, foremost, and all the time for a city board of health, distinct from the aldermen. As yet its efforts had been unsuccessful, but the local public sentiment had been so enlightened and elevated, through constant agitation of the subject, and so great a moral pressure had been brought to bear upon the city from without, through the daily and professional press of the whole country, that not only was the special change that had been desired now close at hand, but, with clearer views of the public need, there had arisen a demand for other municipal progress, general and far-reaching in its scope.

Detail was then given of certain measures employed by the Association for insuring complete inspection of the houses occupied by permanent residents and transient visitors, and a digest of the public and private work accomplished during the past year. The charter of the Association is also given as a guide to similar bodies, it having already proved a protection against annoying suits at law. There is also appended in addition the report rendered to the Association upon the dangers of impure ice, by Professors Pumpelly and Hills, of Harvard University, and Dr. Storer, which has already received from the greatest of living English chemists, Mr. E. Frankland, of London, his unqualified praise. The source of the whole ice supply of Newport was found polluted by the overflow of several cesspools, and the experiments made by the chairman of the committee proved most conclusively that during the congelation of water its impurities are collected together, concentrated and intensified in the resulting ice. The association therefore enjoined upon the Newport Ice Company to either protect its pond or discon-

tinue using it. The former course was very sensibly adopted, by the construction of an expensive intercepting sewer, to the very great advantage and enhanced safety of the whole city of Newport.

DR. THAD. M. STEVENS, of Indianapolis, read a paper on

THE HISTORY OF HEALTH WORK IN INDIANA TO DATE,

in which the organization of the State Board of Health was set forth.

The discussion of the papers was very brief, and at 2 o'clock the Association adjourned to 7.30.

EVENING SESSION.—The Association reassembled, and received addresses of welcome from Mayor Grubb and Governor Porter, after which the President, DR. R. C. KEDZIE, delivered the

ANNUAL ADDRESS.

Members of the American Public Health Association: Once more we meet in annual council to consider questions which intimately concern the weal—the literal wealth—of our common humanity. In this council political lines and sectarian differences are swept aside like the foam on some mighty river, while the current of the forces which tend to purity, to safety, to health and life of all who are exposed to pain, to sickness and death, moves on with the unswerving and resistless sweep of destiny. We come from different States and widely-separated communities, each with his individual ideas, cares, and anxieties; but all with a common purpose to subordinate personal preferences to the general good, and above and beyond all selfish interests, to place the welfare of the community.

But as we thus meet with clasp of hands and words of mutual welcome, there is a shadow on your faces as the thought continually obtrudes itself that we are not all here. Since we last met death has taken from us one of our brightest and best beloved—our President of one year ago. You had all observed with unspeakable pain the evidence that to him life was not to be long; yet when the news of his sudden death came, it brought a shock to us all. While his life was short, as measured by years, it was long when measured by the deeds done for the good of man. "That life is long which fills life's end," and who of us can show a brighter record of unselfish devotion to well-being of his race, than Dr. Charles B. White? As physician in the Crescent City, as President of the Louisiana State Board of Health, as Medical Director of the Auxiliary Sanitary Association of New Orleans, a city presenting more difficult problems to the sanitarian than any city within our borders; and, finally, as President of this Association, Dr. White manifested everywhere and at all times a devotion to the public weal, and a capacity to promote its interests, excelled by none.

Sanitary science includes everything that can prevent disease and thus promote the public health. The public health is not an entity apart and by itself, but is the aggregate of the health of the individuals of a community. Any means that will promote the public health, will correspondingly increase the well-being of the largest number of individuals. If the sanitarian is working for noble ends by unselfish means, let him not therefore suppose that he will be exempt from the imputation of sordid motives, or that he will at once be hailed as the benefactor of his race. Human nature resents the assumption of moral excellence. "Every man's work shall be tried by fire of what sort it is," and he who acts from motives that seem a rebuke to selfishness, will be subjected to the ordeal of a furnace heated sevenfold.

Dr. Kedzie then took up the question, Does sanitary science secure longevity, not by enlargement, but by the attenuation of life?

A French writer has wittily said, "The health which is secured only by constant watchfulness is itself a kind of disease." There is here a happy combination of wit and error which is characteristic of French genius, but the statement itself is only a travesty of preventive medicine. The man that removes known causes of sickness and death exhibits the same forethought on these vital subjects that is demanded in every successful calling in life. A prudent man will give to the protection of health a care corresponding to that bestowed upon the preservation of property, or any other good he may acquire or inherit; only as the posessions are of less value than life and health, and are valueless in their absence, he will give more heed to things of highest importance. "Wisdom giveth life," said the wisest of earth, and he is not to be accused of folly who prizes this gift of wisdom. The man who builds his house in such a way as to prevent the possibility of "a defective flue," and thus secures his household against nine-tenths of the alleged causes of fires, is not to be classed with the fellow who, mousing around at untimely hours, awakens you with the exasperating inquiry, "Don't you smell fire?" The man who prevents disease is not to be mistaken for the valetudinarian who spends life in dodging death.

When we look at the lower forms of life we find that under the guiding and fostering hand of man they have reached a degree of development and attained a length of life not reached in their natural state. This has been well pointed out by Dr. Jarvis in his article on "The Political Economy of Health."

Human life, as at present seen, is not like a goblet filled to the brim, to which any addition is to be compared to piling fluid upon fluid in unstable equilibrium, liable to sudden overflow, all the more imminent as the accumulation proceeds. It is rather a half-filled bucket whose staves are so imperfectly compressed by the loose-fitting hoops that leakage—not overflow—prevents further accumulation. The sanitarian seeks to tighten the hoops, and thus secure filling to the normal capacity, so that man may fill the measure of his days, and not be defrauded of the precious years of his earthly heritage.

Among the causes for hopefulness for the immediate future, I name the following:

1. Extension of the knowledge of the causes of zymotic diseases, such as charbon (or splenic fever) and chicken cholera in domestic animals, and of diphtheria in human kind. All infectious and contagious diseases must soon be brought into the same category, when we shall know and identify the specific cause.

2. The prevention of these diseases by extension of the method of inoculation. This has been done in some diseases of domestic animals. If by similar means measles, diphtheria, and scarlet fever can thus be brought under control, and priceless childhood be rescued from this trinity of woe, how many a Rachel, now weeping beside her childless cradle, will be comforted!

3. The discovery of the bacillus, which is the cause of consumption, by Dr. Koch, of Berlin, marks an epoch in the history of medicine. Tubercular consumption has been the opprobrium of medicine. It is the remorseless destroyer of our race, being the cause of one-seventh of the deaths of our race, and of one-third of the deaths in the active period of adult life. It has sown the earth with untimely graves. It is yet too early to say how much immediate benefit shall spring from this capital discovery, but any means which shall bring within our control, even remotely, this fell destroyer of our race, is full of promise. If science shall stretch forth only the hand of prevention, what a boon to our kind! If it shall finally reach forth the hand of healing and guard mankind from consumption

as effectually as she has saved us from smallpox, or the lower animals from splenic fever, what a shadow will be lifted from the face of our common humanity!

4. Another element of hopefulness is the world-wide interest now taken in questions of public health. In centuries past, history tells us of the gathering of œcumenical councils, where met the representatives from all the civilized world to consult on questions of momentous religious interest, and to decide upon the great affairs of the church. Modern times see the gathering of similar councils of equally widespread constituency to consult about questions of temporal salvation and conservation of the public health. What would the seventeenth century have thought of a world's health congress, with representatives from every nationality in Europe and America. The warlike races are beginning to ponder the question of Christ: "Is it lawful to save life or to kill?" and to suspect that to kill is only half of the duty of a great nation, and that to save life is nearly as important. It is certain that national bigotry has been compelled to give place to amicable restrictions and concert of action for restraining disease. The saviours of our race shall yet be as honored as its destroyers have been.

5. In our land the sky is bright with promise, the organization of so many State boards of health—and we greet with hearty welcome Indiana, who has lately joined this sisterhood of the order of mercy—so many State boards have been organized that now we count up to see how many States have no boards, instead of enumerating the number that have. The work of these boards has been silent as the light, but quickening as the sunbeams. Some State boards, like Illinois and West Virginia—may their tribe increase—have cleaned out the profane and ignorant crew who, for petty gain, would experiment and trade on the lives and health of men. The homes and the bedsides of the weak and suffering have been saved from the clutches of these harpies. Blessings on the law which holds the benignant shield of its protection over the suffering and sorrowing, shielding them alike from ignorant greed and artful cunning. The work done by all these State boards, in investigations of the relations of remote causes to the public health—moisture and dryness, heat and cold, ozone and electrical conditions, etc.—the dissemination of information on all these questions relating to public health, so that when some terrible epidemic fills a village with wild wailing, high above the din and clamor of grief rises a clear voice, demanding, in tones not to be silenced, who will tell us the cause of this, and how to remove it? So also the sanitary conventions enlist all parties in the discussion of questions relating to public health, and spread information on these literally vital questions—in short, enlist humanity in a crusade against disease, bearing aloft no blood-red battle-flag, but lifting up the banner with the white cross of health!

Other organizations in the interest of health without number have been formed—required by law, or voluntary in their organization, the jurisdiction confined to a city or village, or including a large territory. Some of these organizations have effected wonderful results, and their combined influence is beyond human calculation. Foremost in these voluntary organizations I place the Sanitary Council of the Mississippi Valley. Without funds or patronage, without authority to command a single individual, with no power save the high purpose and courage to do good, and the confidence which such qualities inspire, the council put down shotgun quarantine, and for the past two years has kept the valley of the Mississippi open to commerce and travel, but closed against pestilence.

Let us now turn the leaf and look at some of the discouragements.

1. There is so much to be done and so few to do. Lift up your eyes to the redemption of the world from avoidable disease and premature death, and behold the fields are white for the harvest, but the laborers are so few.

2. A few who profess to be reapers are wasters. They care little for the precious grain, but want the straw to make themselves a nest. With great volubility they point out the fact that the largest part of the harvest is straw, and insist that to waste so much good straw which will make them a nice warm bed, merely to save a little grain, is unconstitutional waste, and an invasion of reserved rights. This was to be expected. Eden had its serpent with his plausible suggestions of profit to be secured by wrong-doing. Christ found His Judas, whose eye was ever on the purse, and our own revolution had its Benedict Arnold, willing to sell out struggling right for personal profit.

3. A third cause of discouragement is found in what may be called the hostile indifference of Congress and the executive to the National Board of Health. The American Public Health Association and the Sanitary Council of the Mississippi Valley were active in securing the organization of the National Board of Health. Both the Association and the Council are firm believers in the need—aye, the vital necessity—for a National Board of Health, whose jurisdiction shall be conterminous with the national boundaries, backed by national authority and sustained by the national purse in its holy warfare upon communicable and preventable disease. State's rights may glitter and splutter upon trivial questions of politics, but disease will not pause at State lines nor halt at municipal boundaries. When destruction takes on winged form and comes floating on the very winds to lay waste our heritage, then we want some power whose jurisdiction shall be as wide-reaching as the wings of the destroyer, and shall command every force and resource requisite to withstand the invading foe. Look at the situation. Smallpox has been pouring in with the flood of European immigration, and but for the timely action of the National Board of Health, and the efficient aid of a few State boards of health, the Northwest would have been one widespread hospital for smallpox, and the commerce of this vast region closed for a time. Yellow fever has been flickering like the baleful fires of the tomb along our Gulf borders, and lately has blazed up into an epidemic, destroying life, wasting large communities with sickness, and crippling the commerce of our gulf coast—inflicting a money loss exceeding tenfold the entire cost of the National Board of Health, to say nothing of the suffering and death thus entailed.

When we look to the future the prospect is not reassuring. The same destructive agencies will continue to work in the future as they have in the past. When we turn our eyes to the East we find additional cause for apprehension. Cholera has roused up from its lair in the jungles of India; is now laying waste the islands of the Indian Ocean, and will soon start on its sweep westward to lay waste Europe, to charge across the stormy Atlantic, and, like its predecessors, to die out in the valley of the St. Lawrence or along the banks of the Mississippi. Is this a time to withdraw the watchmen who guard the public safety, to call in our trusty picket line, and hope to meet the destroyer with the *fulmen brutum* of States' rights, or the guerilla warfare of isolated municipal action.

The painful conviction abides with us that a fearful blunder has been made in thus crippling the National Board of Health, and that we have been guilty of the folly of changing front in presence of the foe.

We thus see that light and shadow alternately flit

across our landscape, but the light grows stronger and the shadow less sombre. But we should remember that, whether in sunshine or in shade, the landscape still remains. In health or in sickness, in pleasure or in pain, the race moves on forever, keeping even step with the noiseless footfalls of time; that whatever we may contribute towards improving the condition of our race will be a permanent addition to the welfare of our kind, while our errors and mistakes, like dead leaves and useless chaff, will be mercifully buried in our graves. We are now painfully and wearily sowing the seed, but the generations to follow us shall reap the joyful harvest. Because we are only sowers, and because we shall never thrust in the sickle of the reaper, let us be only the more careful to scatter precious seed. Though our eyes shall never behold the sheaves of that far-off summer-time, our ears may yet catch the echoes of their harvest song. Listen to the refrain: "There shall be no more thence an infant of days; nor an old man that hath not filled his days, for the child shall die an hundred years old." In the ages past how large a proportion of human beings were ushered into existence whose life was measured not by years or months, but were literally infants of days. By the advancement of sanitary science and the stricter enforcement of sanitary law, the proportion of "infant of days" has been steadily diminished, and a constantly increasing number pass on into adult life. Year by year and age by age a smaller number die in infancy and a larger proportion pass forward to productive manhood. With wider knowledge and more general enforcement of sanitary law, this diminution of infant mortality and expansion of human life will go forward with ever-increasing momentum till life will attain its normal limits, and every child shall reach his hundred years. Not only will life be extended, but the long life will be full of joyful activities, and man shall fill his days. For this we toil and hope. God speed the day!

OCTOBER 18TH.—SECOND DAY.

On motion of the Executive Committee about one hundred and fifty persons were duly elected to active and associate membership.

A resolution for a standing committee of five on the National Museum of Hygiene was adopted.

DR. RAUCH, of Illinois, read a paper entitled

OBSERVATIONS IN REGARD TO THE RELATIVE SIZE OF THE LIVER AND SPEEN, AND THE NORMAL TEMPERATURE IN TEXAS CATTLE,

by DR. JOSEPH R. SMITH, Surgeon United States Army, and Medical Director of the Department of Texas. The paper was a long and elaborate one, and, was mostly taken up with the record of exact observations. The author thinks no danger to northern cattle can result from the transportation of Texas cattle, apparently healthy at the commencement of their journey north.

Remarks were made by Drs. Becker, Ryan, and Hunt. Their idea seemed to be that Texas cattle were peculiarly subject to Northern climatic influences, malarial and otherwise, diseases being developed which had shown no evidence of their existence in Texas.

DR. ELISHA HARRIS, Secretary of the New York State Board of Health, offered a resolution instructing the Committee on Cattle Diseases to consider the pathological and etiological conditions of Texas cattle disease. Drs. Smith and Harris were added to the Committee on Cattle Diseases, and Dr. Smith was requested to continue his investigations.

DR. E. E. HOLMAN, of Chicago, read a paper on

STOCK TRANSPORTATION.

He stated that stock in transit are often allowed to go one hundred hours without food and water. Another species of cruelty is practised in the crowding of sheep or hogs into cars with cattle, to fill up the interstices between the legs of the latter. The story of the sickening cruelties practised on animals in transportation was almost incredible. The writer thought it almost, if not quite as bad, to kill these bruised, maimed and crippled animals, for food, as to use those that had themselves died under such treatment. No amount of cooking is adequate to restore diseased tissue to health. The speaker recommended the use of stock-cars which will allow the stock to lie down, and also the use of refrigerator-cars to transport meats. The greatest point to be gained is the education of the consumer up to the point of demanding healthy meat.

DR. T. P. WILSON, of Ann Arbor, Mich., read a paper on

LIFE ON WHEELS.

He estimated that from 1,000,000 to 1,500,000 people are on the cars in this country daily. Railroad travel is not necessarily perilous and uncomfortable. The first want is fresh air. Fifty or sixty persons in a car exhaust the oxygen in a car in a few minutes. Sleeping-cars are a little worse, and the lower berths are worst of all. The heating arrangements are defective, and the drinking water from tanks in cars is bad.

DR. A. N. BELL, of Brooklyn, corroborated the author's statement in regard to the filthy and impure water used on trains. He thought the great reform needed in cars was to abolish the upholstered furniture. The heavy plush seat-covers and heavy woollen curtains catch and retain seeds of contagion.

DR. MILLS, of Port Huron, criticised the combination of water tank and water closet used on some cars.

DR. ELISHA HARRIS, Secretary of the State Board of Health of New York, read a statement of the work of the Board.

DR. JAMES E. REEVES, Secretary of the West Virginia State Board of Health, made a statement of sanitary progress in that State, claiming that it possessed one of the most perfect sanitary systems in the Union. The Board does not confine itself to sanitary work, but also controls and regulates the practice of medicine in the State. There are established three classes of physicians: First, those who are graduates of reputable medical colleges; second, those who have been engaged in continuous practice for ten years; third, those who come before the Board for examination. It is to the medical profession that the people must look for sanitary reform, and only by such very great authority as is given the West Virginia State Board, can such reform be made effective.

DR. RAUCH, Secretary of the State Board of Health of Illinois, cheerfully allowed that the work of the West Virginia Board of Health was the best in the Union.

DR. SAMUEL W. ABBOTT, of Wakefield, Mass., then read the following paper on the

USES AND ABUSES OF ANIMAL VACCINATION.

The author's object was to present for consideration the advantages which are offered by animal vaccination in preference to the older, and, until the beginning of the past decade, the more common method of vaccination by humanized virus. He also referred to some of the abuses to which animal vaccination is liable.

Until the occurrence of the great epidemic of smallpox in 1871–1873, throughout the United States, vaccination had been performed almost exclusively with humanized virus. There were some few exceptions. During the late war of the rebellion, large quantities of crusts were supplied to the surgeons of the army for the purpose of vaccinating soldiers, these crusts having been obtained by the process of retrovaccination, *i. e.*, the vaccination of cattle with humanized lymph. This

practice had the sanction of the medical department of the United States Army, and was doubtless as efficient as any vaccination with crusts. But this mode of propagation failed to win public confidence, doubtless in consequence of a belief in the transmission of human diseases through the cow to man. I am not aware, however, that any facts have ever been adduced to substantiate such a hypothesis. This process of retro-vaccination has also been practised to a considerable extent in other countries, as in Bavaria, from 1818 to 1825, and also in the island of Trinidad.

Humanized virus has been the rule from the days of Jenner until the successful propagation of virus from the well-known case of cowpox which occurred at Beaugency, France, in 1866. The introduction of this practice into America was mainly due to the efforts of Dr. Martin, of Roxbury, Mass., who imported animal virus in 1870 and began the successful propagation of vaccine virus from that time in an uninterrupted series of animals. A new era in the mode of virus production was thus introduced.

In early years vaccine virus was obtained very much after the manner in which our ancestors occasionally procured fire for household purposes before the advent of friction matches. Application was often made to some fortunate neighbor who had carefully preserved his burning coals from day to day. So the country physician often drove away to his professional brother's office in a neighboring village, who had also kept alive his stock of virus by arm-to-arm vaccination of infants, or perhaps by means of a bit of crust carefully stowed away in a corner of his office-desk for future use.

Gratuitous distribution of virus was a common event at the meetings of district or county medical societies. Within the past decade the entire process of vaccination and the general supply of virus in the United States has become revolutionized in consequence of the rapid increase of population, the immigration of hordes of unvaccinated people, the introduction of animal vaccination, and various minor causes, so that, what was once a matter of gratuity or accommodation, has become a regular traffic; the physician purchasing his virus directly from the propagator or from some middle man, usually a druggist, who, to use a technical term, "carries" the article as a part of his stock.

It is safe to say that nine-tenths of all the virus employed in the United States at present is obtained in this manner, by purchase, and also that at least as large a proportion is of animal origin.

Hence, in accordance with the usual laws of supply and demand, certain parties, usually physicians, have undertaken to furnish virus in such quantities as may be required, by the constant propagation of the same in and through bovine animals, purchased or hired for the purpose.

The practice of animal vaccination is reasonable, and is preferable to any other mode. It is also a matter of the highest importance that every safeguard should be afforded, both by legislation and by private practice, to render its performance perfectly safe and efficient.

Reasons for its use:

The impossibility of obtaining a supply of virus from humanized sources in sufficient quantity and with requisite promptness for use in times of epidemic.

The possibility of the transmission of other diseases besides vaccinia, through the inoculation of human vaccine lymph, was for a long time denied by the medical profession, with but few exceptions. Then came a period of doubt and of hot discussion, but at the present day the evidence of such a possibility is too overwhelming to admit of reasonable denial. The advocates of humanized virus are divided in their opinion upon this subject, but the careful instructions which all enjoin as to the selection of healthy vaccinifers, and also to the importance of cleanliness, are only too certain evidence of an unwilling admission of the fact.

It has been alleged by advocates of humanized virus that there is no danger of syphilitic inoculation if blood is not conveyed together with the lymph or serum. But who is to decide as to the presence or absence of blood, and what is the so-called vaccine lymph itself but a portion of the blood, plus the unknown quantity called virus? Vaccine lymph may be colored in varying degrees, from a deep red down to an almost colorless fluid, in which no trace of blood may be visible to the eye. The trained microscopist may, nevertheless, find blood corpuscles quite abundant. But it is impossible to find a microscopist at one's elbow for immediate service at every vaccination.

The introduction of vaccination with direct bovine virus obviates the whole objection, and also disarms the opponents of vaccination, in general, of the most potent argument thus far urged by them.

Transmission of Bovine Diseases.—The hypothesis of the transmission of bovine diseases has been urged. If this doctrine were tenable, facts would have been adduced in its support, for the vaccinations with bovine virus in the United States alone, within the past ten years, may be estimated at not less than three or four millions.

A careful search in the records of vaccination and of anti-vaccination literature, fails to reveal a single authentic case of transmission of genuine bovine disease, other than vaccinia itself.

In regard to the matter of *efficiency* or potency of bovine virus, I am aware that a certain superiority has been claimed for it, over humanized virus, and while I have not observed any preëminence of this sort, I can confidently assert, after an experience of twenty years (ten with humanized and ten with bovine), that the action of bovine virus is at least of equal potency, and also identical in its mode of operation.

The results of observations recorded in the medical journals during the past year or more, are widely dissimilar. A few observers record a superior efficiency for bovine virus, a greater potency, and a larger per cent. of effective vaccinations. A larger number still record an inferior potency, and a smaller ratio of effective vaccinations. In some cases a total failure is recorded. I regret to notice that nearly all of these observations show a total disregard of the essential conditions of scientific observation. All such observations should be conducted under conditions which admit of no possible doubt. On the contrary, one observer reports his virus as purchased from a reputable dealer, another from a reliable druggist. Another observer does not state whether vaccinations were primary or secondary. Scarcely any observer could state the exact age of the virus which he used (a matter of the greatest importance), and in some instances could not confidently affirm that he was using vaccine virus at all, instead of some fictitious product.

On the contrary, the testimony of physicians who vaccinate with virus of their own propagation is uniformly that of a high ratio of success, usually from 95 to 99 per cent. in primary cases. The reasons are obvious—the propagator of virus knows its source and its age, and hence attains a uniformly high rate of success in vaccination.

The Importance of a Perfectly Pure Standard of Animal Virus.—Care is necessary in the selection of animals. They should be healthy, and in good condition as to flesh. They should be well fed and clean, and should be housed in dry, clean, airy and comfortable stables, and should be free from disease of every sort, including cutaneous eruptions.

The age of the animal is a matter of importance. My own preference is in favor of adult cows. In earlier years I made this a matter of experiment, and vaccinated all ages from calves of a week old to adults of a dozen years. From these experiments I concluded that animals of a gentle disposition, in a good condition of flesh, with a rather thin hide, and from three to six years of age, yielded the best results.

The sex is also important. Virus will take as readily in bulls and oxen as in cows, and the vesicle may present as typical an appearance, and by actual experiment I find the virus equally efficient. The difficulty lies in the thickness of hide. This quality renders it almost impossible to obtain a sufficient flow of lymph for practical use.

Analogy would lead us to employ females. So far as I can learn by observation and inquiry, spontaneous cowpox (if the term be a correct one) occurs only in cows, and usually in those that are giving milk. Of at least twenty cases of natural cow-pox which I have inspected during the past eleven years, all occurred in milch cows, and I find this statement confirmed by the observations of intelligent farmers and drovers of cattle. The theory that natural cowpox is a rare disease has no foundation in fact, and only gives evidence of a neglect of careful observation of the habits of animals. One would suppose, from the extensive run of the term "Beaugency," that such a case is almost unknown in America, a land abounding in cattle, and annually exporting thousands to foreign ports.

Adulterations, Dilutions, and other Frauds.—The immense demand for virus created by the last two epidemics of smallpox which have befallen this country, has brought with it more or less of the frauds which are liable to all traffic, either in food, drugs, or other similar articles.

It is important, therefore, that adequate protection be provided in the case of vaccine virus, by the use of which so many of our population are protected from loathsome pestilence. Such protection should warrant purity above all things else.

Vaccine virus is collected for use and offered for sale in various forms.

1. Dried lymph collected and preserved for use upon ivory or bone points, bits of goose-quill, glass, and pieces of silk or thread. The latter are but little used.

The points and quills have been used largely throughout the United States for several years, and are the safest and most convenient forms for general use. These points, either of bone or ivory, are of various sizes and patterns, some with sharpened edges, to be used as a lancet for scarification. The quills are cut from goose-feathers, in pieces of an inch or more, the virus being collected on the convex surface. They have the economical advantage of subdivision.

Period of Activity.—It is the custom of most virus propagators to limit the warrant of efficiency to twenty days or three weeks, and considering the vicissitudes of weather, temperature, dampness, etc., to which it is liable in transit, this limit is sufficiently long, though it may become inert in a shorter time, and also may be found active after six weeks or more. In one case a whole year is reported.

Frauds.—From my own observation and that of others, it appears that certain modes of dilution and substitution have been practised in the use of vaccine lymph in this form.

The substitution of simple blood-serum for vaccine lymph. This has been alleged, and if so, I know of no possible mode of detection except by the test of use. As a substance for dilution there could be no possible motive for its use, except that of increasing the quantity of apparent lymph. The microscope could hardly be relied upon as a detective in this case.

Egg-albumen.—During the past winter the medical journals of this country have occasionally contained statements referring to the use of egg-albumen to a greater or less extent in the preparation of animal virus, and specimens of points have been shown me purporting to be prepared in this manner. One propagator has admitted their use, and defended it for certain reasons, namely: "That the ivory or bone point is somewhat porous, and hence requires a coating of albumen to prevent the vaccine lymph from being absorbed by the material of the point. Another, that the albumen is applied over the vaccine lymph as a protective agent to render it more durable. Without the least intention to impute the design of fraud to this special use of a foreign substance, I still believe it to be highly objectionable. My own experience shows that the practice is unnecessary for either of the reasons alleged. Pure vacine lymph will retain its activity sufficiently long without such protection, and, if any lymph is absorbed by ivory or bone, there is certainly a sufficient quantity left upon the surface for practical use.

Again, the addition of such foreign substances would greatly deceive the purchaser, who would naturally suppose the liberal coating to be pure vacine lymph, instead of a dilute solution of the same in egg-albumen.

Mucilage.—In 1872 a package of quills was brought to my notice, which were very small and pointed, and had upon the pointed ends a very thick coating of a substance which was almost insoluble in cold water, of brittle fracture, and totally inert for vaccination purposes. It had every appearance of mucilage of some sort of gum, and could not have been genuine vaccine lymph. I do not think that adulteration from this source would be difficult of detection, in consequence of the comparative insolubility of the gum.

Crusts.—This form of using virus is open to certain grave objections, to which the points and quills are not liable. The points are charged at a period when the lymph is clear and transparent, and free from pus or any foreign material, while the crusts are not removed for use until several days later. These few days are sufficient for the development of pus, which may often be noticed adhering to the under-surface of crusts as they are detached. In addition to the pus, various foreign substances are liable to become incorporated with the crust during the period of its formation.

In a fresh, normal crust, which I removed from a healthy cow September 29th, I detected the following elements or substances:

First, epithelium in abundance; second, lymph corpuscles; third, pus globules; fourth, fat globules; fifth, hairs; sixth, connective tissue; seventh, starch granules; eighth, fragments of organic material (dust of stable, etc.).

We find, therefore, a variety of elements entering into the composition of a vaccine crust which are extraneous to it, and all of them foreign to the special purpose of vaccination. Some of the constituents which have been proved, must naturally be liable to interfere with the action of the virus, and be productive of serious results. This statement is confirmed by the experience of several observers.

Dr. Wheeler, of Chelsea, Mass., reported a death from vaccination with a crust, and had also seen other cases of trouble following their use. He thinks vaccination with the crust more dangerous than with lymph.

Dr. Ayer, of Boston, reported that all the cases of trouble from vaccination which he had ever seen followed the use of crusts.

The late Dr. Comstock, of Middleboro, Mass., in a private letter to me in 1872, also related several cases of serious illness following vaccination with crusts.

I need scarcely refer to the use of crusts preserved in an aqueous solution. The very suggestion is revolting to any one who has the slightest knowledge of the laws of decomposition; and yet instances are on record of the use of such solutions, with disastrous results ensuing.

From the various records of analyses of crusts made by others, and also from my own examinations of their intimate structures, also from the results which occasionally follow their use, I have recently arrived at the conclusion that the use of vaccine crusts, and also all compounds manufactured from them—powders, solutions, etc.—should be abandoned *in toto*, and the use of vaccine lymph limited to that which is collected at the period of maturity of the vesicle, and dried immediately for use.

Capillary Tubes.—These are fine glass tubes, into which vaccine lymph is first drawn by capillary attraction, and the tubes are then sealed air-tight at each end. Glycerine is occasionally used for diluting the lymph, in varying proportions. Capillary tubes are used more generally in foreign countries than in the United States.

This form of using vaccine lymph is open to the grave objection, which is common to most organic fluids, of putrefactive change. Bacteria may be found in the lymph contained in carefully sealed capillary tubes in a very few hours after they are filled. Glycerine may possibly delay the change for a longer time, but will not prevent ultimate decomposition. In order to sterilize such a fluid by means of heat, it would be necessary to heat the fluid to such a degree as would also be fatal to the efficiency of the virus. The only safe mode of avoiding decomposition would be to collect the lymph under antiseptic spray, immediately after the puncture of the vesicle.

One writer, in advocating the use of capillary tubes, prefers them because "the lymph is always in a fresh state." If by fresh he means free from organic change, the microscope certainly does not confirm the statement.

In conclusion, I would urge the necessity of the highest standard of purity in the preparation of an article of such vital importance to the health of the republic, not only that the objections of the opponents of vaccination may be forever silenced, but also that the possibility of unfortunate results may be prevented, and the perfection of purity and excellence insured.

The discussion of this paper was made the special order for the afternoon session.

Afternoon Session.

Dr. A. N. Bell, of Garden City, L. I., read a paper on *Sanitary Inspection.*

Dr. Bela Cogshall, of Flint, Mich., read a paper,

IS TUBERCULAR CONSUMPTION A CONTAGIOUS AND PARASITIC DISEASE?

Taking the ground that it is so communicable. He related many interesting experiments to show that cattle affected with consumption communicated the disease to the human race by the eating of their meat and drinking their milk.

The recent investigations of Prof. Bollinger, of the University of Munich, on the artificial production of tuberculosis as induced by the consumption of diseased milk, are of the greatest importance. He claims that the milk of such animals has a preëminently contagious influence, and reproduces the disease in other animals experimented on from that point of view.

Then if it be that consumption is a contagious disease, it behooves us as sanitarians to see that the great source of infection—the sputum of phthisical patients—is done away with by its immediate destruction; thus preventing the germs being wafted with the air promiscuously about, endangering the health and lives of nurses and attendants. We should see to it that meat and milk infected with these parasites are not allowed to be eaten or become articles of commerce. He also discussed the question of its being a "parasitic disease," and related the wonderful discovery of Dr. Koch, of Berlin, who claims to have found the germ of the disease.

A paper on

COMBINED SEWERS DANGEROUS TO PUBLIC HEALTH,

by Dr. J. W. Compton, of Evansville, was read by Dr. E. M. Hunt. He urges entire abolition of the combined sewers for storm water and the ordinary domestic sewage. The present system produces, he claims, foul air chambers, where bacteria are generated and typhoid fever bred. Very small sewers will answer for the carrying off of the actual foul sewage from houses.

The Association then passed to the special order—the discussion of the question of

VACCINATION.

Dr. Foster, of Augusta, Ga., thought it unfortunate that bovine virus was the fashion at this time. He declared in favor of humanized vaccine virus. He has never been able to obtain over 60 per cent. of successful vaccinations from bovine virus. Bovine virus is unreliable. Often it fails to take, when humanized virus will do so. He thought bovine virus vaccination had its uses where there was a wholesale demand for vaccination. The long delay of bovine virus in developing itself is one of the objections to its use. He had never seen a case of vaccine syphilis.

Dr. Devron had found the bovine virus very reliable. He had successfully vaccinated the babe at the breast of the mother having smallpox.

Dr. Beckwith had used both kinds of virus. He had had indolent ulcers and gangrenous sores developed from bovine virus. The demand last fall had been so great that the producers had overworked their animals. As high as 15,000 patients had been vaccinated from one cow. He advocated a law that would make the propagators responsible for the quality of virus sent out, and suggested that it might be necessary for the government to take charge of the production of vaccine virus, as in Belgium.

Dr. E. L. Griffin, ex-president of the Wisconsin State Board of Health, said there was some conscience among propagators, some honesty of purpose. He said cases of spontaneous cowpox were rare, but cases of spurious cowpox were common. He would deprecate the vaccination of cows over four years old. He believed both kinds of virus had their use. Animal vaccine must be accepted as a great boon to humanity. The question before us is to guard its propagation. Last winter the demand for vaccine matter was enormous. Every man fell into error. Virus was sent out that ought not to have been sent. Animal vaccine is just as good now as it was a century ago. Its propagation should be entrusted to skilled labor only, and this should of a necessity be enforced by law. He thought the per cent. of success from bovine virus would compare favorably with that of arm to arm. He expected from 90 to 95 per cent. of success from proper bovine virus. Want of skill in the physicians who use the points is a potent source of failure.

Dr. Hills, of Keokuk, Iowa, had found in public trials that there was 25 per cent. of failure with humanized virus and less than 10 per cent. with bovine virus. He had never heard of smallpox "wearing itself out."

The continuation of the discussion was adjourned until the next day.

EVENING SESSION.

DR. J. L. CABELL, of Virginia, President of the National Board of Health, presented the following report from that body.

The National Board of Health having been placed by the recent action of Congress in the anomalous and embarrassing position of a body charged with important and responsible duties, and yet deprived of the means of efficiently executing them, some of its members who had been appointed from civil life felt that it was incumbent upon them to consider what course of action on their part would best subserve the interests of the public health, placed in jeopardy, as they conceive, by recent legislation. In consideration of the fact that the Board of Health owes its existence to the efforts of this Association, and of the further fact that their own appointments were largely due to the recommendations of a committee of this body, they have decided to refer the question to the Association itself, and to this end have directed me to address a communication, as its presiding officer, setting forth a summary statement of the operation of the Board since its organization in 1879, which they desire to be placed on permanent record.

The occasion is specially adapted to a review of the work of the National Board by this Association, in view of the fact that the law under which the board has accomplished its greatest and most beneficent work—that of preventing the introduction and spread of infectious diseases—will lapse by limitation unless renewed at the next session of Congress. It is for the American Public Health Association to determine how far the National Board of Health has fulfilled its mission, and whether it is to be destroyed or supplanted by adverse legislation.

Dr. Cabell then proceeded to give a summary statement of the operations of the National Board of Health from the date of organization to the present time, consisting (1) of aid to State and local boards of health in the execution and enforcement of their rules and regulations to prevent the introduction of contagious or infectious diseases into the United States from foreign countries. (2) Aid to the same parties in maintaining sanitary inspection on the Mississippi River. (3) The inspection of immigrants with reference to the protection of the people of the United States from the introduction of smallpox by said immigrants. In connection with the above branch of the operation, Dr. Cabell cited the following passage from a report made to the Senate of the United States at the late session of Congress, from the select committee to investigate and report the best means of preventing the introduction and spread of epidemic diseases. In this report the following statements are made with the unanimous approval of the committee:

"The epidemic of 1879 at Memphis and New Orleans made its appearance before the National Board had been able to perfect its plans of prevention; though it is, in the opinion of the committee, doubtful whether that epidemic could have been prevented, as it is not certain whether it originated from germs of the epidemic of 1878 which had survived, or in fresh importation of the disease. But, under the rules and regulations adopted by the Board to deal with it, it was actually stamped out in New Orleans, and confined to the limits of Memphis; and, instead of the general demoralization and panic, with suspension of business, trade, and commerce, which pervaded the country in 1878, commerce and communication with the infected cities were regulated, not stopped, or even retarded to any considerable extent, and the general business of the country went on in its usual methods, and through its usual channels, without serious interruption. Instead of panic and alarm, confidence and a sense of security pervaded the country. The great transportation companies of the South, both river and rail, are unanimous in their approval of the action and methods of the National Board in dealing with such cases, because experience has shown that they give the necessary security against the spread of disease, without stopping, or retarding to any considerable extent, commercial intercourse. They have learned from their own experience that the certificate of the National Board of Health as to the sanitary condition of any city, or place, is accepted by other cities and States as testimony coming from a strictly impartial and well-informed authority, independent of all local interests or influences, commercial or otherwise. In the opinion of the committee, it has accomplished much, and is capable of accomplishing highly important results of great benefit to the country, results which can be accomplished by no other agency."

Dr. Cabell then gave a brief account of the proceedings of the International Sanitary Conference of Washington, and expressed his regret that although the delegates of the United States obtained most important concessions of international comity, the ratification of which would have been of the utmost consequence, Congress had not yet taken the first step to secure such ratification. Dr. Cabell also gave an enumeration of the various special scientific investigations which had been conducted under the auspices of the National Board, and cited the testimony of eminent authorities of Europe to show the value of such investigations with reference to their sanitary applications. After noticing certain charges made against the board, Dr. Cabell concluded as follows:

It will thus be seen that the national health organization, which the Association has been so largely instrumental in bringing into existence, is in some danger of extinction for the want of adequate support by the National Legislature. In view of this fact it is considered pertinent and proper to suggest that the members of this Association may do a most useful work in instructing their representatives in Congress as to the value of the work performed by the National Board of Health, and the indisputable necessity of more liberal appropriations to enable it to carry on this work with due efficiency. Without such effort there is danger of losing the ground gained in 1879, which if so lost now will probably not be regained for many years to come. In making these efforts it may be important to bear in mind the source and character of the hostile agencies combined to overthrow the National Board of Health. We may be permitted to refer to a few of them:

"1. The State Board of Health of Louisiana, backed by a portion of the press of New Orleans, in its repeated allegations that the National Board of Health has interfered with and obstructed the local authorities, instead of aiding them, as required by law. The interference consists in the National Board establishing an inspection service within the limits of New Orleans, being induced to take this action in compliance with the request of the health authorities of the Mississippi valley States, including those of Louisiana itself. Nothing short of this will satisfy other communities having intercourse with that city, which would certainly be quarantined by its neighbors to a most inconvenient extent if it were not for the protection it derives from the certificates of the inspecting agents of the National Board.

"2. The powerful influence of the Treasury Department, which asserts a claim to the disbursement of all funds appropriated by Congress for the suppression of epidemics, and to the selection of its own medical officer, the chief of the Marine-Hospital Service, as its

agent in these operations, although an express provision of an existing Act of Congress repeals all previous acts conferring sanitary powers on that branch of the public service, and clothes the National Board of Health, which includes in its membership a detailed officer of that service, with all the power assumed by the general government in respect to quarantine and sanitary matters.

"3. As composed of medical men selected without regard to party affiliations, and wielding no political patronage, the Board finds no hearty support from politicians of either of the great parties of the country.

"In conclusion, we desire to say that, as the present membership of the Board was largely due to the unsolicited choice of the advisory committee of the Public Health Association, we abide its decision as to our longer continuance in these positions, preferring, if deemed consistent with the public good, to be relieved by the selection of others, who may, perhaps, command a larger share of public support.

"S. M. Bemiss,
"R. W. Mitchell,
"T. L. Verdi,
"J. L. Cabell,
"Stephen Smith,
"H. A. Johnson."

On motion of Dr. Early, of Kentucky, a vote of thanks was extended Dr. Cabell for the paper just read.

The Secretary then presented the following resolutions, which had been prepared by the Executive Committee in view of Dr. Cabell's report, referred to the Advisory Council, and again referred back to the Executive Committee for revision:

THE ASSOCIATION'S RESOLUTIONS.

"*Resolved*, That this Association has listened with great interest and satisfaction to the analysis and detail of the work accomplished by the National Board of Health, as furnished by the President of the Board; and that we commend its careful perusal to all upon whom, as legislators or sanitarians, devolves the care of the public health, not only as showing the scope of its faithful and efficient administration, but as suggesting and illustrating the permanent demand there is for a sustained national organization of this general character.

"*Resolved*, That there is a work to be done by such a board which cannot be done by any local or State board, and which is not, and cannot be, adequately represented or fulfilled by any other branch of the national service, as illustrated in its inspections and inquiries into special conditions so serious as to be national rather than local; in its dealings with yellow fever and smallpox; in its plans for consular health bills from foreign ports and refuge stations for a wide coast range; in its internal care over river and railroad transportation; in its investigations into malaria and other widespread causes of disease; in its valuable scientific and practical inquiries into the causes and courses of epidemics; in its comparisons of statistical facts, and in its widespread distribution of information most intimately affecting the vital conditions of our whole population.

"*Resolved*, That, while each State and each division of national service may contribute much aid in their respective spheres, we view with regret any curtailment of the functions of a board so constituted as to represent and unify the health interests of the entire Nation.

"*Resolved*, That, we counsel the National Board to continue all the work possible under its present restricted appropriations and await with confidence the extension of its powers of usefulness, and that appreciation of its work for the past and its necessity for the future, which can but result from a calm and careful estimate of the safeguards requisite for national health and prosperity.

"*Resolved*, That the Advisory Council of this Association, representing, as it does, the sanitarians of the various States, be directed to use all laudable efforts to place before the President of the United States and Congress at Washington, and before members of Congress in their several States, the very great importance to the welfare of this country of such action by the United States government as shall increase, to the fullest extent, the means and powers of usefulness of the National Board of Health.

"*Resolved*, That so long as the United States government confines its maritime and inland quarantine service to the aiding of State and local boards of health, it is essential, for the best results, that such aid shall be through channels most generally acceptable to State and local boards of health, whose co-operation is requisite; and we sincerely believe that the National Board of Health, is the channel most generally acceptable.

"*Resolved*, That confining the work of the board to cholera, yellow fever, and smallpox is believed to be in the highest degree injudicious. It should have the full powers for investigation of all preventable diseases conferred upon it by its constituting Act, and be granted the funds necessary for this purpose, and this should be done irrespective of the action which may be taken with regard to quarantine.

"*Resolved*, That the members of the American Public Health Association hereby pledge their individual co-operation in endeavoring to secure such national legislation as shall insure to the National Board of Health such material aid as may be needed in carrying out, with the greatest efficiency, all measures pertaining to the interests of public health.

"*Resolved*, That the president, vice-presidents, and secretary of this Association be charged with the duty of securing the complete presentation to the authorities at Washington of the full influence of this Association in favor of properly and permanently sustaining the National Board of Health.

"*Resolved*, That the address of the President of the National Board of Health, together with these resolutions, and such other papers or resolutions as relate to this subject, be printed at once in pamphlet form, to the number of one thousand."

Dr. Early thought no physician could fail to realize the importance of the situation. He was indignant that a government like ours should say to the American people: "We have so little regard for your health that we propose to take from you every safeguard which the National Board of Health has hitherto devised." He offered an additional resolution, strongly indorsing the action of that Board and denouncing the opposition thereto, which was favorably reported by the Executive Committee.

Dr. Devron, of New Orleans, a member of the Citizens' Auxiliary Association of that city, said his association would see with fear the abolition of the National Board.

Mr. Colter, of Chicago, mentioned the probability of our having cholera in the country within the next few months. What could be done in that case without the National Board of Health? The National Board works in unison with the State boards, and without it there could be no unity of purpose among them. Every member should work for this Board as an individual.

Dr. Cantwell, of Alabama, said the entire sentiment of his State would support these resolutions.

Dr. Thornton, of Memphis, said his city had been one of the greatest beneficiaries of the National Board. No other body could inspire the same confidence as

has the National Board. The commerce of the river will be most seriously interfered with next summer if there is danger south of Memphis.

DR. HILLIS, of Iowa, heartily indorsed the sentiments of the resolutions, but he did not think the way to reach Congress was by denunciation. Most congressmen are in favor of sustaining the National Board of Health. Some of the congressmen of the last Congress had axes to grind.

DR. BAILHACHE, of the Marine-Hospital Service, and also a member of the National Board of Health, said the officers of the first-mentioned organization were quite as competent to take charge of quarantine regulations as the officers of the National Board. There has been no legislation interfering with the constituting Act of the National Board. The quarantine act will expire by limitation soon.

COLONEL HATTON, of Tennessee, reiterated the statements of Dr. Thornton of the deep obligation of Memphis to the National Board. Perhaps the Marine-Hospital Service might do the same work, but the National Board has been tried and found effective; it has all the machinery; why make any change? We don't want the shotgun quarantine, but the only way to prevent it is by the strong arm of the National Government. The commerce of this country on the Mississippi is carried on by confidence. One day's stoppage of the commerce of this river would cost the country millions. Memphis will protect herself if the nation don't protect her.

DR. HUNT, of New Jersey, spoke of the heartfelt experiences given him by people from the South in regard to the efficacy of the National Board.

DR. RYAN, of Texas, spoke feelingly in opposition to the shotgun quarantine system.

DR. SIMMONS, of Charleston, S. C., bore testimony to the efficacy of the National Board on the South Atlantic coast.

DR. WHITE thought it certain that the sanitarians of the country, those who know best, approve of the National Board. It is equally certain that those who have attacked that Board know nothing of its real work and efficiency. Three hundred thousand people of this country are dying every year of preventable diseases. This Board is investigating the causes of such diseases, and its work must go on.

DR. DURGAN, of Arkansas, said four years' experience with the National Board had served to give his people great confidence in it.

There was entire unanimity of feeling in regard to the support to be given to the National Board, the speeches being of the most earnest and emphatic character, and the applause being frequent and heartfelt.

The resolutions finally passed unanimously.

OCTOBER 19TH—THIRD DAY.

A resolution was passed that the Advisory Council be instructed to consider the advisability of

AN INTERNATIONAL SANITARY EXHIBITION,

At Washington, or such other city as may be thought proper, and to report at the next meeting.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President—DR. EZRA M. HUNT, of New Jersey.

First Vice-President—DR. ALBERT L. GIHON, U.S.N.

Second Vice-President—DR. J. E. REEVES, of Wheeling, W. Va.

Treasurer—DR. J. B. LINDSLEY, of Nashville, Tennessee.

Executive Committee—DR. THOMAS L. NEAL, Ohio; T. J. TURNER, U. S. N.; DR. G. P. CONN, New Hampshire; J. S. BILLINGS, U.S.A.; J. J. SPEED, Louisville; H. D. FRASER, South Carolina.

It was decided to hold the next annual session at Detroit.

DR. GIHON, U. S. N., chairman of the

COMMITTEE ON VENEREAL DISEASES,

submitted an elaborate majority report, signed by eight of the nine members of the Committee. It discusses the question in the most careful and elaborate manner, stating that there are about 2,000,000 cases of venereal diseases in the United States. It concludes by recommending an act intended to prevent the spread of contagious and infectious diseases.

REV. FRED. H. WINES, of Springfield, Ill., presented a minority report opposing legislation, fearing it would tend to the registration of prostitutes.

DR. BELL indorsed the majority report.

DR. HUNT deprecated the Association's indorsing the proposed act, although he thought it desirable that the subject should be considered by sanitarians.

On motion of DR. BILLINGS, the whole subject was laid on the table—33 to 22.

DR. GIHON earnestly protested against this disposition of the matter.

DR. ELISHA HARRIS, of New York, read the report of the

COMMITTEE ON VITAL STATISTICS,

which included the following resolution:

"*Resolved*, That the American Public Health Association recommends that the chief officer and expert adviser in the registry of vital statistics in the respective States, the three departments of the Federal Government, and the National Board of Health shall meet in conference at a convenient place during the ensuing six months, to examine and consider the outlines of laws, plans, and methods of securing the most complete and correct registration and public use of vital statistics in the several States throughout the Nation and in all branches of the public service." Adopted.

DR. O. W. WIGHT, health officer of Detroit, read a paper on *The Law Requiring Medical Men to Report Cases of Infectious Disease and Deaths to the Authorities*.

AFTERNOON SESSION.

THE REPORT OF THE TREASURER,

DR. J. BERRIEN LINDSLEY, showed total receipts of $2838.67, including a balance of $812.67 brought forward; disbursements aggregating $563.84, leaving cash on hand, $2274.63. Volume 7 of Public Health Reports is still in the hands of the printer. When it is issued and all liabilities met there will be a net balance of $300. Referred to the auditing committee.

DR. J. J. SPEED, of Kentucky, read a paper on *The Relation of Health Associations to the Practice of Medicine*.

DR. G. B. THORNTON, President of the Board of Health of Memphis, read a long and elaborate paper on

THE NEGRO MORTALITY IN MEMPHIS,

in which he considered the sanitary and social conditions of the colored race. He reviewed at length the relative vital movements of the two races.

DR. JAS. F. HIBBERD, of Richmond, read a paper on *Propositions Concerning Vaccination*.

DR. A. W. CANTWELL, of the Board of Health of Davenport, Iowa, read a detailed history of *An Epidemic of Smallpox by Direct Importation from Germany on the Steamer Candia*.

A paper by JOHN W. DETWILER, of Bethlehem, Pa., on *Smallpox in Bethlehem and Suburbs*, was read by title.

The subject of

VACCINATION

was now taken up for general discussion.

Dr. Hunt said there is such a thing as protected humanized virus, and there is also such a thing as protected bovine virus. The sources of trouble in vaccination are: Virus produced by unskilled propagators; virus improperly inserted; virus which has lost its strength by age; persons in bad health when vaccinated.

Dr. Dawson deprecated the inoculation of the cow with smallpox and the use of the virus thence produced as a preventive of smallpox.

Dr. Hillis dissented from the views of Dr. Hibberd on public vaccination. In his community public vaccination had been completely enforced. He thought Dr. Hibberd had given his people too much time to work up an opposition to vaccination. The attempt to enforce vaccination where there is no smallpox is liable to be attended with difficulty. In his town, the schools, places of amusement, churches, etc., had been closed, and only the briefest notice given of the intention to vaccinate.

Dr. Beckwith defended Dr. Hibberd. Unless the vaccine virus can be guaranteed pure, there can be no justification for compulsory vaccination. He stated a number of cases where ulcers, etc., had resulted, and one case where consumption had followed.

Dr. Griffin thought there was little likelihood of the cow being inoculated with smallpox. It had amused and surprised him that so many medical gentlemen were of the opinion that the lymph was derived from cows inoculated from smallpox patients. In regard to the variolation of the cow, he said most of those who have attempted it have come to grief.

Dr. Wright thought it possible, though extremely difficult, to convey human smallpox to the cow, and to reconvey it again to the human subject. He thought real vaccinia in the cow identical with smallpox in the human subject. There is no such thing as the substitution of one zymotic disease for another. So far as the State enforces vaccination, just so far is it bound to see the virus is pure. No man should be allowed to sell vaccine matter who is not responsible to the State. He paid a high tribute to Dr. Griffin's vaccine matter. He thought the time was not ripe for enforced vaccination. He absolutely knew vaccination was a protection against smallpox. He had vaccinated eleven persons in a pest-house, not one of whom had taken smallpox.

Dr. Bailey, of Louisville, thought we should rely upon moral suasion in educating the people up to vaccination. He had not much apprehension of the transmission of diseases by vaccination.

Dr. Raymond, of Brooklyn, protested against spasmodic vaccination. Where vaccinators are kept constantly on duty, they are known and no prejudice is occasioned. Compulsory vaccination would never be heard of because it would never be needed if regular vaccinators were employed all the time. He thought local records should be kept of smallpox cases and vaccination, as of much better moral effect than the testimony of foreign experts on the efficacy of vaccination.

Dr. Abbott, who read the first paper calling out the discussion, thought there was reason to believe in cases of spontaneous cowpox. It is most difficult to communicate from such animals the genuine bovine disease to other animals.

Dr. Herrick, of New Orleans, suggested that the disease was communicated to the cattle through the human beings by whom they were milked.

Dr. Durgan, of Boston, believed in persuasion, but he also believed in a law which compels wholesome sanitary observances. Isolation and vaccination are two means by which we suppress a smallpox epidemic. Compulsory vaccination works well in Massachusetts and admirably in Boston. We use only animal virus on ivory points. The humanized virus is a little more certain to take on the first trial.

After the reading of several other papers and the passage of the usual resolutions of thanks, the Association adjourned.

NEWS ITEMS.

INDIANAPOLIS.

(From our Special Correspondent.)

The Meeting of the American Public Health Association.—The session of the American Public Health Association in this city, which has just closed, has been, upon the whole, a fairly interesting and successful one. The number of members registered is about one hundred and forty, an attendance not so great as that at some previous meetings, but still exceedingly good when the peculiar circumstances of this meeting are considered. The local committee of management was so constituted as to cause great distrust on the part of all respectable physicians, its chairman being a homœopathic physician who does not command the respect of his own fraternity, and who is commonly known among them, as he is among the citizens of Indianapolis, by his initials (M. T.) "Empty Runnels." When about a dozen of the older members of the Society, including the executive committee, arrived here on Monday, they were met by the report that this Runnels had made arrangements to bring in about one hundred and fifty homœopathic and physio-medical friends and take possession of the Association. He had prepared for the press a programme for the first evening, on which he had placed his own name as presiding officer, and seemed bent on making his unpleasant personality as conspicuous as possible. The local medical society had, by formal resolution, advised the regular physicians of the State to have nothing to do with the matter, and, at first sight, it seemed as if the best thing that a respectable medical man could do would be to keep aloof and out of the controversy which seemed to be impending.

The importance of the objects of the Association was, however, felt to be so great, and the destruction of its influence for good if it passed under sectarian control was so certain, that it was clear that the first duty of the members present was to endeavor to thwart, if possible, any movement to control the Society by local influences. To this end the Executive Committee refused to admit any new members until action should be taken on a Constitutional Amendment, which provided for the division of members into two classes—those having and those not having the right to vote. Accordingly, the first business of the first day's session was to pass this amendment after a rather warm discussion, in which Dr. Hewitt, of Minnesota, and Dr. A. N. Bell, of Brooklyn, combined with Drs. Verdi, Runnels, and others in the attempt to break down the barrier and allow every and any one to become a member by paying five dollars.

At first this action was looked upon with great distrust and irritation by the homœopaths—who thought they were going to be entirely excluded, but when they found that the Executive Committee was electing homœopaths and approving the reading of papers prepared by them, and was simply judging of their qualifications from the standpoint of sanitarians, the excitement cooled down, and by this time some of the leaders in the opposition were quite satisfied with the result.

The second point upon which it seemed as if there

might be some serious differences of opinion was with regard to the National Board of Health. Dr. Hewitt, the Secretary of the State Board of Health of Minnesota, tried hard for two or three days to organize an opposition to any action in favor of the National Board, and was always to be seen in confidential talk with one or another member urging his view. He does not represent the views of his Board which is decidedly friendly to the National Board, and it is a little difficult to get at the cause of his persistent hostility.

The only explanation to be obtained was from a big northwestern member, who when questioned on the matter said, "Well you see Hewitt is what we call a sorehead. He is very smart, thinks very highly of himself, and generally is down on anything that he can't control. He wasn't consulted about the Board, he can't run it, and he is a little afraid of it."

When the subject of the National Board and its present anomalous position came before the Association on Wednesday evening, in the form of a long report from Dr. Cabell, President of the Board, it was very soon apparent that the sentiment of the meeting was almost unanimous in favor of the support of one national sanitary organization, and moreover, that this feeling was a very strong and earnest one. Speaker after speaker representing all parts of the country denounced in strong terms the action of Congress in limiting the scope of the work of, and refusing funds to the National Board, The only dissenting voice came from the representative of the Marine-Hospital Service, who claimed that that service could do the quarantine work better than the National Board, and ought to have it. In this opinion he seemed to be quite alone, the general expression of opinion indicated a decided want of confidence in the Marine-Hospital Service. After the meeting was over a prominent member of the American Medical Association asked me how far the Code of Ethics was applicable to a medical department represented in that body, and whether, when such a department persistently and systematically sought to break down and destroy another medical department simply to get possession of funds and patronage, it was not clearly a violation of the Code? I propound his queries for your consideration.

The event of Thursday morning was the report of the committee on venereal disease by Dr. Gihon, of the Navy, and the laying it on the table by the motion of Dr. Billings, of the Army. This result, which seems to have been totally unexpected by the committee, was by no means satisfactory to it, and Dr. Billings was accused of having taken an unfair advantage of parliamentary tactics to suppress debate and permit of no reply to his own rather sarcastic speech on the subject. Dr. Billings reply to this, as I heard him give it to one of the aggrieved committee-men, was that he had specially tried to have the fullest possible discussion, and had requested the President to recognize him only after all who desired to speak had had the opportunity—telling him what he proposed to do which would of course stop all further debate.

Dr. Billings said he was so sure of the folly of bringing the Association into conflict with the medical profession of the country, by approving a law which would practically make it compulsory upon physicians to reveal the secrets of their patients, and also for the reasons given by him in his remarks, that he certainly meant to kill the measure if possible—but that he had to make the motion when he did or not make it at all.

In this connection I must allude to the very ludicrous termination of the movement for an international sanitary exhibition. Circulars, calling a conference of State boards of health with the National Board and the American Public Health Association, and purporting to be signed by a number of well-known sanitarians, and by Dr. Newell of New Jersey, as secretary of a conference of sanitarians held in New Jersey, in September last, had been sent to all the above-mentioned organizations, asking them to send delegates to a conference to be held at Indianapolis, to organize the proposed exhibition. A number of delegates were present and the meeting took place in the reading-room of the Grand Hotel. Dr. Newell took the chair and announced that the objects were to select a name for the organization, to determine where the exhibition should be held, what it should contain, etc. After a moment's silence, one delegate mildly suggested that it would be as well to decide first whether there should be any exhibition at all. Whereupon, Dr. Billings took the floor and showed that the conference of sanitarians of which Dr. Newell claimed to be secretary, consisted of four gentlemen whose names were quite unknown to the Secretary of the State Board of Health of New Jersey, that permission to use the names of the supposed signers of the call had been obtained under a species of false pretences, and that the Public Health Association repudiated any connection with the movement. He concluded by advising those present to have nothing to do with the matter and bowed himself out of the room, whereupon all present got up and followed him leaving Dr. Newell in the chair, alone in his glory.

Your correspondent was present as a sort of self-constituted delegate, and anything more ludicrous than the expression of mingled surprise, humiliation, and wrath, on the face of the would-be promoter, as he saw the procession file past him, I have never had the good fortune to see. One delegate, upon reaching the hall, christened Dr. Billings as "the sanitary refrigerator," amid shouts of laughter.

The complications arising from the unfortunate composition of the local Committee of Arrangements resulted in an almost total want of the social element, so far as the residents of the city were concerned. There were no receptions or entertainments, and very few of the local physicians attended the meetings. I am by no means sure, however, that this was not all the better for the objects of the society.

The selection of the officers for the next year seems to have given very general satisfaction, and the prevailing opinion is that the meeting next year at Detroit will be a great success.

Progress of the Yellow Fever.—The despatches from Pensacola, Florida, are incomplete this week, as no bulletin was telegraphed on the 22d. On the other days the record was as follows:

Dates.	Cases.	Deaths.
October 17th,	50	3
" 18th,	56	3
" 19th,	53	9
" 20th,	42	2
" 21st,	40	3
" 22d,	—	—
" 23d,	37	1
	278	21
To October 16th,	1680	143
Total reported to date,	1958	164

The new cases reported during the week ending 16th inst. were 380. The disease is thus apparently decreasing.

The investigation into the origin of the epidemic has been turned over to Dr. Wm. Martin, of the U. S. Navy. Major Walthall, of Mobile, who was originally suggested for this work, was prevented from undertaking it by the pressure of his present duties in con-

nection with the sick of the fever-stricken city. Dr. Jerome Cochrane, of Alabama, in a letter to Major Walthall, makes the following suggestions as to the lines of inquiry:

"The history of every infected vessel that has been in the bay of Pensacola this summer should be carefully studied in all its possible antecedents and consequences—the history of the Saleta, the Accame, the Iris, the Rosa B——, the —— McNeil, the Duc Amici Luigi, and all the rest.

"The Saleta and the Accame should be specially studied. I am sure that they got their infection either at the quarantine station or in the city itself; and I am very much of the opinion that a thorough study of the cases of these two vessels will solve the problem of the introduction of the fever. One notable fact in connection with all of these infected vessels is the fact that the officers were the first to have the fever; the officers —that is to say, the men—whose freedom of movement was least restricted, and who were most frequently at the supply house, and most frequently ashore.

"The first cases on shore did not occur along the shore of the Bay, near the wharves, as might have been expected on the hypothesis that the fever was brought from the shipping, and almost a whole month passed away after the presence of the fever in the city was recognized before any stevedore, or any person accustomed to work on the ships, or any of the women in the lewd houses frequented by sailors, was attacked by it. It would seem to follow that the fever was brought in, not by the common sailors, but by the officers. Still, no case has been traced to any connection with the Saleta; and no subsequent case has occurred at Mrs. O'Neal's, where the captain of the Accame died, or anywhere in the neighborhood of Mrs. O'Neal's.

"There can be no doubt that the fever had really found a footing in the city many days before its dread presence became known, either to the people or to the health authorities; and the most persevering efforts should be made to discover the really "first cases." To this end the antecedents of the first cases that were recognized should be thoroughly traced out; and in this connection an investigation should be made of every case of fever that occurred anywhere in the neighborhood of the district that first became infected for two or three weeks or a month before the annunciation of the fever on the 28th of August. In this list came the cases in the Rosario family, near the jail, and several other cases that occurred in that immediate neighborhood, whose names I cannot now recall. The probabilities all point to this locality as the *fons et origo* of the epidemic, and here the research should be made in a spirit that refuses to be baffled. Spend days and weeks here, if necessary. Interrogate every human creature in the neighborhood, and note every smallest occurrence. Somewhere about here the key of the problem is to be found."

Cholera in Yokohama, Japan.—During the two weeks ending September 25th, there were in Yokohama and vicinity 101 new cases of cholera and 85 deaths from the disease. This is a very notable and encouraging decrease, the figures for the first twelve days of the month having been respectively 283 and 223. The totals since the commencement of the epidemic, on April 26th to date, are 3610 cases and 2308 deaths, giving a mortality of a little over 63 per cent. None of the foreign residents are affected at this time.

The total number of deaths from cholera in the Empire is stated, in a Yokohama paper, to have been 21,030 on September 10th.

No Cholera in Morocco.—The National Board of Health has received information through the Department of State from Mr. Mathews, United States Consul at Tangier, dated Sept. 18, that cholera is not prevailing in Morocco. "I may add, also," says Mr. Mathews, "for the benefit of American merchants and tourists, that of the telegrams from Madrid to the London papers announcing the appearance of cholera at Tangier, and that the Spanish government had adopted rigorous measures to prevent the introduction of the disease into Spain, the former part is without fundation. Neither at Tangier nor at any place in Morocco have contagious diseases broken out; if, unfortunately, such had been the case, even the least sign of disease, I could not have failed to report the facts in my weekly returns to the National Board of Health at Washington."

The Sanitary Council of the Mississippi Valley held its Annual Session at Indianapolis, on Thursday, October 18, Dr. Gustav Dervon, President, in the chair.

Dr. J. H. Rauch, of Chicago, the Secretary of the Council briefly stated the objects of the meeting.

On motion of Dr. Baker, of Michigan, a committee, consisting of one from each State represented in the Council, was appointed to formulate an expression of opinion with regard to the work of the National Board of Health and the necessity for its continuance; said committee to report at an adjourned meeting to be held at 5.30 P.M.

On motion of Dr. Thornton, of Memphis, it was decided to hold the next annnal meeting of the Council at Jackson, Miss.

The Council then adjourned to 5.30 P.M., at which hour it was again called to order by the President, and the committee appointed at the morning session, through its chairman, Dr. J. J. Speed, of Kentucky, submitted the following:

Resolved, That the Sanitary Council of the Mississippi Valley earnestly deprecates any effort to curtail the work of the National Board of Health as likely to result in a renewal of panic and unnecessary interference with commerce and travel.

"*Resolved*, That, in the judgment of this Council, founded upon intimate and extended experience, the river and rail inspections of the National Board of Health are essential to secure the confidence of the Mississippi valley and thus to prevent avoidable interruption and disturbance of business interests, and the Council, therefore, petitions Congress to give such aid to the National Board of Health as will enable it to efficiently carry out its system of sanitary inspection for the prevention of the spread not only of yellow fever and smallpox, but of all epidemic, contagious, or infectious diseases.

"*Resolved*, That this Council fully indorses the action of the American Public Health Association, as set forth in the resolutions concerning the National Board of Health, adopted at the session of the Association held October, 18, 1882, and urges each organization represented in the Council to use its utmost endeavors to influence members of Congress from their respective districts to promote the necessary legislation to secure the end above indicated.

"*Resolved*, That the Secretary of the Council be instructed to transmit a copy of these resolutions to the American Public Health Association and to each organization represented in the Council."

The resolutions were unanimously adopted, and on motion the meeting adjourned.

Opposition to Koch's Theories as to the Bacillus Tuberculosis.—Before a largely attended meeting of the Philadelphia County Medical Society, held Wednesday, October 18th, Dr. H. F. Formad

made a demonstration of the bacilli tuberculosis, and made some remarks in which he claimed that so far there had been no reliable demonstration of the etiological relation of these bacilli to phthisis. He did not dogmatically deny it, but did assert positively that it could by no means be considered as proved. He objected to the importance attached to the reaction of those bacilli to certain staining fluids, because from his own experiments he had found it not to be peculiar. The result of Koch's inoculation experiments he discredited, because the successful ones had been made only on animals that have a very strong predisposition to tuberculosis, and contract it from inoculation of non-specific substances; while others claimed to be successful, he regarded as cases of pseudo-tuberculosis.

The view, in regard to the bacilli tuberculosis to which Dr. Formad inclined was that they do not cause the disease, while it is likely that they do "condition the fatal issue."

The remarks, which will be published in full hereafter, were received with marked interest, and were followed by a brief discussion, participated in by Drs. Wood, Gross, Tyson, Bartholow, Cohen, and others. None of the speakers seemed to have adopted Koch's views, and it was spoken of as a matter for congratulation, that one so well fitted as the first speaker, should have presented the arguments against them; since the truth would be arrived at all the more surely if the new doctrine were put upon its defence and not allowed to establish itself without due scrutiny.

THE KING'S COUNTY MEDICAL SOCIETY AND THE NEW YORK CODE. — At the stated meeting of this Society held on the 17th instant, the consideration of the new Code came up as special business. Dr. E. R. Squibb presented a series of resolutions condemnatory of the Code, upon which further action was postponed until the next meeting.

RESIGNATION OF DR. OLIVER WENDELL HOLMES.—DR. HOLMES has just resigned the Parkman Professorship of Anatomy in Harvard University, to which he was elected thirty-five years ago, as successor to the late Dr. John C. Warren. It is understood that Dr. Holmes intends to devote himself entirely to literature.

THE LOWELL INSTITUTE LECTURES.—PROF. WILLIAM B. CARPENTER, the distinguished English physiologist, has just begun a course of six lectures on "The Physical Geography of the Deep Sea." They are being delivered in Boston before the Lowell Institute.

NEW YORK POLYCLINIC.—A polyclinic has been organized in New York for the purpose of giving post-graduate instruction in clinical medicine and surgery, didactic lectures being excluded from their methods of teaching. A dispensary has been opened under the direction of the faculty. There will be five sessions of six weeks each, commencing November 7th. The faculty consists of Drs. Leaming, Ripley, Hudson, Elsberg, Gray, Brandeis, Robinson, Bronson, Fowler, Wyeth, Gerster, Mundé, Wylie, Gruening, Webster, Gibney, and Stillman.

CARTWRIGHT LECTURES.—DR. W. T. BELFIELD, Lecturer on Physiology in Rush Medical College, will deliver the Cartwright Lectures this winter. He has chosen "Disease Germs" for his subject.

OBITUARY RECORD.—Died in Brooklyn, N. Y., October 12, 1882, ABRAM LELAND LOWELL, M.D., aged 50 years. He was born in Chester, Vermont, the son and the grandson of a physician, both distinguished practitioners, and was easily inducted into the study of medicine, and early manifested a fondness for surgery and anatomy. He was graduated in arts at Harvard University in 1857, and in medicine at the University of the City of New York three years later. He was an interne on the surgical side at Bellevue and Charity Hospitals in New York soon after graduation. During the war he was for a time the surgeon of the steamship Arago; a little later he occupied a very responsible position in the Pension Bureau. About 1872 he took up his residence in Brooklyn, and soon afterwards became an attending surgeon to St. Peter's Hospital, where he made a record for conservatism, skill, and self-sacrificing interest in his work that will long be held in memory by the surgical patients of that institution.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending Oct. 14, 1882, indicate that consumption, influenza, and neuralgia have increased, and that diarrhœa, pneumonia, erysipelas, and puerperal fever have decreased in area of prevalence.

Compared with the average of reports for the months of October in the preceding five years, all diseases named in this report, except smallpox, were less widely prevalent during the week ending Oct. 14, 1882, than has been usual.

Including reports by regular observers and by others, diphtheria was reported present during the week ending October 14, and since, at twenty-three places, scarlet fever at fourteen places, measles at two places, and smallpox at four places, as follows: in Orange and Ionia townships, Ionia County, October 13; at Grand Rapids, October 14; at Niles (one case), October 19.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 16 TO OCTOBER 23, 1882.

WILLIAMS, JOHN W., *Surgeon.*—To proceed to Vancouver Barracks, Wyoming Territory, and report upon arrival to the Commanding General, Department of the Columbia, for assignment to duty in that Department.—*S. O. 168, Military Division of the Pacific, October* 13, 1882.

MOORE, JOHN, *Major and Surgeon, Medical Director, Headquarters Department of the Columbia.*—Granted leave of absence for one month, with permission to apply to Headquarters Military Division of the Pacific for extension of one month.—*S. O. 145, Department of the Columbia, October* 3, 1882.

LORING, LEONARD Y., *Captain and Assistant Surgeon.*—Granted leave of absence for four months.—*S. O. 243, A. G. O., October* 18, 1882.

BYRNE, CHARLES B., *Captain and Assistant Surgeon.*—Leave of absence extended ten days.—*S. O. 243, A. G. O., October* 18, 1882.

BUSHNELL, GEO. E., *First Lieutenant and Assistant Surgeon.*—Leave of absence extended one month.—*S. O. 244, A. G. O., October* 19, 1882.

APPEL, A. H., *First Lieutenant and Assistant Surgeon.*—Granted leave of absence for one month.—*S. O. 168, Department of Dakota, October* 14, 1882.

CARTER, EDWARD C., *Assistant Surgeon.*—Now at Camp Price, to proceed to Fort Thomas and report to the Commanding Officer of that post for duty.—*S. O. 159, Department of Arizona, October* 11, 1882.

EVERTS, EDWARD, *Assistant Surgeon.*—Assigned to duty at Fort Coeur d'Alene, Indian Territory.—*S. O. 145, Department of the Columbia, October* 3, 1882.

TAYLOR, A. W., *Assistant Surgeon.*—Relieved from duty at Fort Supply, Indian Territory, and assigned to duty at Fort Cummings, New Mexico.—*S. O. 208, Department of the Missouri, October* 16, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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ORIGINAL LECTURES.

ARTIFICIAL FEEDING OF INFANTS.

A Clinical Lecture delivered at the Pennsylvania Hospital, October 25, 1882.

BY ARTHUR V. MEIGS, M.D.,
PHYSICIAN TO THE HOSPITAL.
(Reported by CHARLES BAUM, M.D.)

GENTLEMEN: I have here two French books, from each of which I will read you an extract as an introduction to my subject for to-day. That subject is the artificial feeding of infants, with the importance of which it will be my endeavor to impress you. These books are *La Vérité sur les Enfants Trouvé*, par le Dr. Brochard, Paris, 1876, and *Histoire des Enfants Abandonnés*, etc., par Ernest Semichon, Paris, 1880.

M. Semichon says, "In the archives of Rouen we find that between Jan. 1, 1800, and Dec. 31, 1859, inclusive, thirty-six thousand five hundred and four infants were placed in the 'Tour' of the foundling hospital. About thirty-two thousand eight hundred and fifty or sixty of these died in the sixty years, making a mean of about ninety deaths in each hundred."

My quotation from the book of Dr. Brochard is as follows: "There appeared a few months ago, in the 'petit journal,' the following: 'Nothing more original, and at the same time more practical, can be found than the new dog kennels at the Zoölogical Garden. This actual palace contains the purest and most useful types, from the terrier to the large Siberian grayhound, and from the bold dog of the Pyrenees to the Skye terrier. These interesting animals have large cages, with comfortable boxes furnished with bedding and coverings, and a *special cuisine!*' While the public is in ecstasies about the *special cuisine* for foreign dogs, there die each year in the foundling hospital at Lyons, during the first eight days after birth, one-tenth of all the infants taken there, for want of a *special cuisine;* that is, for want of wet nurses. At Tours, in the foundling institute, the mortality in 1872 was forty-one in ninety-one, thanks to the want of a *special cuisine;* that is, to the want of nurses. In 1874 the mortality at Tours was, from the same need, 86 or 87 in 100. What a pity the foundlings, in place of being in the care of the general government, were not in the hands of the authorities of the Zoölogical Garden! They would then be cared for as carefully as the little brutes, and would have, what they now lack, a *special cuisine* and be housed on hygienic principles."

Terrible as are the figures I have just read to you, the results attained in the foundling ward of the Philadelphia Almshouse are still worse. A few years since the published mortality was one hundred per cent., which means that every foundling taken there died. In justice to our Almshouse, and to foundling hospitals in general, it should be said that their mortality must always be high, as the infants they receive are from the very scum of the earth, being in many instances the offspring of prostitutes, criminals, and drunkards, and consequently often suffering from congenital syphilis and all forms of wasting infantile diseases; again, many of them are already half-dead from exposure upon doorsteps and cellar-ways before they are picked up and taken to an institution. All this, however, will not account for the excessive mortality in most of the hospitals, and particularly in our Almshouse. Many of the deaths are attributable to neglect and improper feeding; from carelessness and inattention to cleanliness about the food, and from ignorance, on the part of the persons in charge, of what constitutes proper diet for the new-born.

The child I now show you was born July 15, 1882. His mother, a French woman 35 years of age, and far advanced in pregnancy, was treated in this hospital for typhoid fever, and was discharged, cured, on June 16, 1882. During her entire attack she complained bitterly of pain in the hepatic region and was constipated, many scybala being discharged from time to time after the employment of simple enemeta. Just seventeen days afterwards she returned to the hospital suffering with agonizing pain in the region of the liver, accompanied with fever. There was a large discharge of pus and blood from the rectum twenty-four hours before death, and from a second attack of the same character she died. In the last few minutes of life the infant before you was born in an extremely cyanotic condition, respiration being only slowly and with difficulty established. His entire cutaneous surface was soon found to be jaundiced to an unusual degree; this, however, gradually disappeared.

A post-mortem examination of the body of the mother showed the gall-bladder to have been converted into an abscess, which was adherent to the small intestine, into which perforation had taken place. Five large gall-stones were found in the sac, and seven others in the intestine. There were cicatrices in many of Peyer's patches in the ileum.

The infant was very small, but its finger-nails were well formed; the facial expression was that of an old man, the forehead being wrinkled, and the skin harsh and dry. The muscles were flabby. The food ordered for it was milk one part and water three parts, with ordinary cane sugar to make it moderately sweet. Upon this it did not thrive, having much colic, and green stools with occasional vomiting of firm curds, want of appetite, and sleeplessness.

On the first of August, when I assumed charge of the ward, this infant was taking from three to four fluidounces of diluted milk in the twenty-four hours. He had frequent green stools, and his condition was so bad that all the persons in charge of him had fully determined that he must die. I at once placed him upon the use of a food I have devised within the last year, and with which I have thus far attained very good success in as many cases as I have had the opportunity to try it. It contains the same elements as are found in human milk, and in more nearly the same proportions, than any other food heretofore recommended. This consists of two parts of cream, one of milk, two of lime water, and three parts of a solution of milk sugar of the strength of 17¾ drachms to the pint of water. The milk to be used, should be good ordinary cow's milk, and not the very rich milk of Jersey or other high-bred stock, and the cream in the same way should be such as is usually sold in cities, and not too rich, containing about 16 or 17 per cent. of fat. The quantity of this food taken by a new-born infant should be two or three fluidounces every two hours, and if it thrives, it will soon take as much as a gill every two hours.

The best way to prepare and use my food is to order five or six packages of milk sugar, containing 17¾ drachms each; the contents of one of these to be dissolved in a pint of water, and each time the child is to

be fed, let there be mixed together, and then warmed, three tablespoonfuls of the sugar solution, two of lime water, two of cream, and one of milk. This makes about a gill, and as much of it as the child does not take should be thrown out, and a fresh mixture made for the next feeding. The solution of sugar should be kept in a cool place, and at once thrown away if it sours, as occurs if kept more than a day or two in warm weather. The dry sugar keeps indefinitely, and is easily dissolved in warm water. A pint bottle should be kept for the purpose of containing the solution, to serve also as a measure of the quantity of water to be used with each package dissolved, and also to save further measuring.

The infant I show you, was at the same time ordered twenty drops of brandy, to be given every two hours, and a few days later took four times daily a teaspoonful of a 25 per cent. emulsion of cod-liver oil, containing in solution a quarter of a grain of pyrophosphate of iron. Shortly after he began the use of the food and tonics his condition improved; he became much less wrinkled and had a better color; his appetite awakened and he would cry when hungry, instead of lying in a lethargic condition, as he did during the first two weeks of life. As the improvement progressed he passed a very large quantity of urine, it being impossible to keep him dry. This is a symptom I have frequently noticed in infants recovering from wasting conditions, resulting from malnutrition. His condition was one of progressive improvement until about Sept. 26, when he became feverish and had some slight coryza; a macular and scaly syphilitic eruption soon appeared upon the face, head, neck, and palms of the hands and soles of the feet. For a few days it seemed as though he would die, but under the use of mercurial ointment, of which a piece as large as a pea was rubbed into the groins once each day, and a grain of potassium iodide given three times daily, he soon improved, until he reached the condition in which I now show him to you. His daily quantity of food is now more than three pints in twenty-four hours, and he often takes more than a gill at one feeding.

About two years ago I became interested in the analysis of cow's milk, and from this I was led, by an accident almost, to attempt to analyze a specimen of human milk, My surprise was great when I found a proportion of only about one per cent. of casein instead of three to four, as exists in cow's milk. I at first supposed this to be due to some error in my process, but after making a number of analyses and getting always approximately the same result, I concluded that perhaps I had only arrived at what was actually true. In pursuing the subject I am more and more convinced of the correctness of this view. I will not here dilate further upon the actual methods of analysis, but will refer any of you who may be interested in the subject to a paper I read last winter at a meeting of the Philadelphia County Medical Society, which was published in the *Philadelphia Medical Times* of July 1, 1882.

The analyses of human milk heretofore published have differed so widely that it is impossible they can all be correct. I will quote three analyses to show you how great is the divergence of the results obtained—one by Henri and Chevallier; a second by Vernois and Becquerel, and the third by Messrs. Dolan and Wood, published in the *Practitioner* not long since.

	H. and C.	V. and B.	D. and W.
Water,	87.95	88.908	89.045
Fat,	3.55	2.666	1.764
Casein,	1.52	3.924	7.005
Sugar,	6.50	4.364	1.921
Ash,	.45	.138	.265
		100.000	100.000

You will observe that the great difference in the figures lies in the estimates of the amounts of casein and sugar, the other elements being all sufficiently nearly parallel; but I do not think it possible that human milk can vary as much as these analyses would lead us to believe; particularly the estimate of casein given by Messrs. Dolan and Wood appears to be manifestly absurd; human milk can never contain such an amount. The mean given by Vernois and Becquerel is that of eighty-nine analyses they made, and is accepted as the standard by most authorities upon the subject. An examination of the three analyses shows conclusively that if milk has any uniformity of composition at all, not more than one of the three can be correct.

In order to arrive at a correct idea of the composition of human milk I have made a number of analyses, taking upon one occasion an equal quantity of milk from twenty-seven women in the Philadelphia Almshouse, which was kindly furnished me by Dr. Fairfield, the resident physician, with the permission of Dr. John M. Keating, who had charge of the ward at the time. An analysis of this gave me an average of the composition of the milk of these women. On another occasion I procured from the same source the mixed milk of eight negro women, and analyzed it also; to these two analyses, I added eight separate analyses I had made of the milk of different women, and by a simple process of arithmetic I arrived at an average of the composition of all. This gave me the mean average composition of the milk of forty-three different women.

Taking the average thus arrived at as my standard, I have endeavored to synthetically construct a food which would be as nearly as possible like human milk in composition. Analysis of the food, the proportions of which I have already given you, show that I have at least approximated this result. I will shortly present to you the actual figures of an analysis I have made of the artificial food suggested.

No one will pretend, I think, at the present day to claim that any results have ever been attained, by any plan of artificial feeding yet devised, that are at all comparable to those obtained by nursing. In the foundling hospital of Moscow, we are told by M. Parrot that admirable results are obtained by the plan carried out there. To each two infants there is one nursing woman, either the mother of one of them or not, as the case may be; this woman is obliged to alternately nurse and feed the two infants, of whom she has charge. The success of this plan is great, but still the mortality is large. In France, as I have already shown you, the death rate is eighty or ninety per cent. and in our own city almshouse, it has been, at times at least, still worse.

Considering all this, I think it may fairly be assumed, that if we could find a food more nearly like human milk, we would greatly lesson the mortality among hand-fed infants. It cannot be that the mere drawing of the milk out of the breast through the nipple is what makes it so immeasurably the best food for the human infant. It must be that nature has prepared a food which is most digestible and exactly what is required by the infant stomach for the healthy nourishment of its body, and it is likely that if we could procure human milk as we can cow's milk, and give it to infants, we would attain a success approximating, although not equal, to that attained when the child draws its nourishment from its mother's breast.

Thus far there has been a great and unfortunate divergence in the views of physicians upon the proper method of artificial feeding. M. Parrot advises the administration of pure cow's milk; so I believe does Dr. Jacobi, of New York; many order it diluted with water, and it almost seems that the various methods are as numerous as the physicians who advise them.

Of later years, a great deal has been said about cream mixtures, and Dr. Biedert (a German) in particular has written much on the subject, strongly urging the use of diluted cream.

Condensed and preserved milks have lately attained a great reputation as admirable foods for the new-born, and the results are much better, if properly managed, than are commonly obtained by the use of simple watered cow's milk; the amount of casein in condensed milk, as ordinarily used, being less than in fresh cow's milk, and consequently the infant has not the leathery, cheesy coagula to contend with, that are so apt to be vomited when cow's milk alone is used. Preserved milk is usually ordered in this city to be given in the proportion of one teaspoonful to six tablespoonfuls of water. I made a mixture in this proportion, carefully analyzed it, and found it to contain only about one per cent. of fat; herein lies its defect as an artificial food, for this is too small a proportion of fat to adequately sustain an infant. There is rather less than one per cent. of casein, which accounts for its success, for casein so diluted cannot form leathery curds. The amount of sugar contained is also too small, being only about five per cent. The evil of giving too little fat and sugar is not such a present and active one, as the giving of too much casein, which at once forms heavy tough curds, and in all but very healthy infants soon weakens or arrests the digestion.

I will now show you in parallel columns four analyses, in order that you may inspect and compare them. It will be observed that the human milk and my artificial food are very nearly alike in composition, except in the matter of ash; while the pure cow's milk is widely different, containing a much larger proportion of casein, and less sugar. The condensed milk mixture falls below all the others in the quantity of each element, except the water and ash, and it will be observed that, as the fat and casein bear the same relative proportion to each other as they do in pure cow's milk, it would be impossible to dilute or mix it in such a way as to have the elements in the proportions contained in human milk, for by increasing the quantity of condensed milk used, to get more fat, we add at the same time too large an amount of casein.

	Human. (Mean composition from milk of 43 women.)	Artificial Food.[1]	Cow's (Wanklyn.)	Condensed. (one teaspoonful to six tablespoonfuls.)
Water,	87.163	88.357	87.551	92.673
Fat,	4.283	3.506	3.071	1.095
Casein,	1.046	1.214	4.043	.868
Sugar,	7.407	6.669	4.626	5.206
Ash,	.101	.254	.709	.158
	100.000	100.000	100.000	100.000

Theory leads us to believe that a food, such as the one of which I have advised you to make use, is a proper one, analysis showing it to be very much like human milk. Upon theory alone, however, I should not venture to take so bold a step as to advise the use of any special food for so delicately organized a being as a human infant. In this instance, however, theory goes hand in hand with the teachings of experience; for, as I have already told you, many persons have before recommended the use of cream, and others have advised that milk sugar be used, and almost all advocate the use of lime water in greater or less quantity. My father, Dr. J. Forsyth Meigs, has for years been in the habit of advising equal parts of milk, cream, lime water and a weak arrow-root water, as a food for infants, and has often had admirable results from its use. Dr. Biedert and others, whose name is legion, recommend increased quantities of fat obtained by the use of diluted cream. Human milk when fresh, if tested with litmus paper, is almost always found to be alkaline in reaction; cow's milk, on the contrary, is almost universally acid. The addition of lime water to cow's milk in the proportions I have advised changes this acid condition to one of alkalinity, and thereby makes it more like human milk, even if the lime water has no ulterior effect which we do not yet comprehend. So you see I have directed nothing absolutely new, taking merely scattered ideas which have come from many quarters and formulating them, experience having taught me that human infants require more fat than is commonly given them, and my analysis having shown that our common foods also fail, partly because they contain too little sugar. One great advance, however, is in formulating precisely in weights and measures how the food should be made, its composition being so simple that almost any woman can easily comprehend and carry out the directions.

In synthetically constructing the food, I have profited first and principally by what experience has taught me, that cow's milk contains too much casein, and that if it is diluted there is too little fat and sugar. Then practice having shown me these difficulties, but not having taught me how to overcome them, my analyses of human milk unfolded to my comprehension its exact composition. Thus you see, having perceived from experience how our present methods fail and in what they are wanting, theory and scientific examination teach how we may at least hope to correct our former errors; for when practical knowledge and theory go hand in hand and explain all the premises, it will be indeed strange if we do not arrive at the truth. If time, which is the great critic and judge in all such matters, deciding these questions with even-handed justice, should show my theory, which is secondary and dependent upon my observations, to be correct, I shall think I have accomplished much towards the saving of human life.

[1] The cream used to make this food happened to contain only 12 per cent. of fat, so that element is in slightly too small quantity. Cream, however, being a variable substance, the amount of fat must always differ.

ORIGINAL ARTICLES.

ON THE GROWTH OF ASPERGILLUS IN THE EAR, WITH A CASE OF THE RARE FORM OF THE PARASITE, THE ASPERGILLUS GLAUCUS.

By CHARLES H. BURNETT, M.D.,

AURAL SURGEON TO THE PRESBYTERIAN HOSPITAL; CONSULTING AURIST TO THE PENNSYLVANIA INSTITUTION FOR THE DEAF AND DUMB, PHILADELPHIA.

The first observations of the growth of a fungus in living animal tissues were made by German and French scientists, in the first half of this century. These men based their statements on what they found in the lungs and air-vesicles of birds. Virchow, too, observed fungi, perhaps the aspergillus, growing in the lungs of man.

The first demonstration of the development of fungi in the ear of living man was given by Mayer[1] and by Paccini.[2] Later cases of the growth of this fungus in the ear and the symptoms of disease caused by it were narrated by Schwartze[3] and Wreden,[4] and

[1] Müller's Archiv, p. 401, 1844.

[2] Supra una Muffa parasita (Mucedo) nel condotto auditivo. Florence, 1851.

[3] Archiv f. Ohrenheilkunde, Bd. II., 1865.

[4] Ibid., Bd. III., 1866.

by others in Germany and in this country. In the first volume of the *American Journal of Otology*, 1879, the writer of this article reported twenty cases of the growth of Aspergillus in the human ear, all of them instances of the occurrence of the commoner form, the *A. nigricans*. There are, however, two forms found in the living human ear, both of which cause disease with similar symptoms, viz., the *A. nigricans* and the *A. glaucus*.

The Aspergilli belong to the division of fungi called arthrospores. In the same division are other fungi which become parasites of living man, viz., the Tricophyton, Microsporon, the Achorion, and the Oïdium. The Aspergillus, however, resembling in form ordinary mould, shows a decided or specific tendency to grow in the ear of man. It appears in the ear in one of two forms, either the *A. nigricans* or the *A. glaucus*. These two forms are never found together, so that it is manifest from this alone that the two forms are not different stages of growth of the same fungus. Nor do we find any blending of the two forms, nor any transitions from one to the other, as must be the case if they were two forms of the same plant. Nor is it, in any instance, ordinary mould modified by growing in the human ear, for the fungus taken from the ear and cultivated in a glass jar produces the same form over and over, as was seen in the original piece taken from the ear. Moreover, it is not identical either macroscopically or microscopically with ordinary blue or green mould. From repeated observations—twenty-six cases, some in both ears—I am inclined to regard, with Wreden, the Aspergillus found in the ear of man as the specific aural fungus.

But whether this latter view be correct or not, it is very certain that two distinct kinds of aspergillus are found in the ear of man. The characteristic difference between the two varieties of aspergillus found in the ear of man is seen in the shape and size of the *receptaculum* and the arrangement of the *sterigmata* upon it, these two parts forming the so-called "head," or *sporangium*.

The heads or sporangia of *A. nigricans* are distinguished from those of the rarer form, the *A. glaucus*, by the fact that in the former the sterigmata cover the round receptaculum (B in figure) on all sides, while in the latter form the lower fourth or fifth of the ovoid receptaculum is entirely free from sterigmata (A in the figure). They are distinguishable, therefore, by their shape and not by their color. Of the rarer form, the *A. glaucus*, I have seen but three cases, two of which occurred in my own practice, since the publication of the paper on twenty cases in 1879. Both of these were women, living in the best of hygienic surroundings, and in each both ears were simultaneously affected. The first case has already been reported[1], and the second case has recently been observed, and will be given after a short general consideration of the etiology of the growth of aspergillus in the ear and the otitis excited by it.

Etiology.—The meatus and auditory canal being wounded by pins, or any instrument used for scratching the ear, or the discharge from a boil in the canal being allowed to remain there after the disease has ceased, is an invitation to the spores of the Aspergillus, a saprophyte, to settle upon putrescent animal matter. The same nidus is offered when sweet oil, or any grease, is allowed to become rancid in the ear. The parasite naturally seeks a secluded spot for growing, and hence begins to flourish first upon the inner end of the auditory canal, viz., on the membrana tympani. This excites a myringitis, confined primarily to the dermoid layer of the drum-head and of the inner end of the auditory canal. Though at first this is not a severe inflammation, yet if the Aspergillus is allowed to remain in the ear, the fungus sinks into the fibrous layer of the membrana tympani, the otitis externa becomes more severe, and the parasite, by sinking deeper into the drum-head, finally may enter the drum-cavity, and an otitis media is then set up. This is not ordinarily or rapidly the case, because the successive false membranes of mycelium and epithelium tend to undergo spontaneous detachment from time to time. This is due to the increasing inflammation caused by the growth of the fungus, and the loosening effects of the discharge caused by the disease, but the loosening effect is not sufficient to cause entire removal of the false membrane and all the spores from the ear. At last, if the Aspergillus is not removed and its spores in the ear destroyed by treatment, the drum-membrane ceases to resist the increasing strength of the parasitic vegetable growth, the fungus runs its rootlets and mycelial web into the parenchyma of the delicate membrane, gains the tympanic cavity, and a deeper and more inveterate disease is established. The case of otitis externa, excited by the growth of the rarer form of Aspergillus, the *A. glaucus*, recently observed by the writer, was as follows:

Mrs. J., aged 30, living in the best of hygienic surroundings, has felt for a long time an itching in her ear, to relieve which she has repeatedly and imprudently scratched her auditory canals with hair pins, etc., and irritated the skin of the ear. Within a month both ears have itched more and more, first the left and then the right. The itching was followed by lancinating pains at long intervals, some watery discharge, and a muffled sense of hearing. The walls of the meatus of each ear became swollen and the ears tender in front of tragus.

[1] Transactions of the Pathological Society of Philadelphia, vol. ix., 1879.

On the left side, first attacked, the process of growth in the fungus and the inflammation had been arrested apparently by the patient's forcing, in her manipulation of her ear, some cerumen inward upon the fungus—showing what I have already called attention to, that Aspergillus will not flourish in or upon healthy cerumen. Underneath the ear-wax, however, the perfect Aspergillus was found preserved but arrested in growth.

In the right ear the fungus was in active growth upon the membrana tympani, its favorite habitat, and the inner end of the auditory canal. These parts were deeply injected, sensitive to the gentlest touch, even with cotton on a probe, excoriated, and exuding serum. The sides of the meatus, too, were swollen and the ear in front of tragus sensitive.

Treatment.—The treatment given in detail of this case may be considered as a sketch of that which is best for the cure of Aspergillus in the ear in general. The treatment consisted in first syringing the ears gently with warm water, in order to remove as much as possible of the mycelial false membrane. From each ear there was thus removed a glove-finger cast of the fundus of the auditory canal and membrana tympani. Upon microscopic examination this revealed the *A. glaucus* in perfection. Then into each ear there was gently blown finely pulverized boracic acid, by means of a flexible blow-pipe, made of a foot of black rubber-tubing and a quill-holder at the distal end for conveying the powder into the speculum. The operation was done under perfect illumination by light reflected from the forehead mirror.

The next day the left ear was found very little inflamed and the sense of hearing less muffled. But as some spots of mycelial false membrane were still seen around and upon the drum-head, there was blown into the fundus of the ear, to cover these spots, a powder consisting of

Salicylate of chinoline, ... ʒj.
Boracic acid, ... ʒj.

The right ear was still somewhat inflamed, but less than on the previous day. The hearing was still muffled, and a false membrane was seen to be still over the drum-membrane at spots. The lancinating pains had become less frequent. The ear was syringed, and some pieces of false membrane, which had undergone detachment, came out. Over the still inflamed drum-membrane plain boracic acid, powdered, was blown, as upon the previous visit. Upon the third day the left ear had become normal in every way.

The right ear was very much better and the meatus less occluded by swelling, but the fundus was still swollen and moist with serum, and spots of the fungus were still visible. No pain had been felt since the previous day, but the hearing was still muffled, though less than on the previous day. Again powdered boracic acid was blown into this ear.

On the fourth day the left ear continued well, and the right was very much better in every way. There was, however, still some ulceration of the dermoid layer of the front and upper part of the drum-membrane, but there were no signs of mycelial formation or of discharge. Plain boracic acid powder was blown in over the drum-membrane after it was found that the chinoline-boracic acid powder caused some pain and had been syringed out.

On the fifth day the right membrane had resumed largely its normal contour, the swelling and inflammation being confined to the skin of the auditory canal about the periphery of the membrana tympani. The boracic acid blown in at the previous visit having become a little pasty, it was washed out and fresh boracic acid blown in. The hearing was much less muffled, and the ear began to feel natural once more.

On the sixth day, the right ear was well. Some powdered boracic acid was allowed to remain over both drum-membranes and the inner end of the auditory canal about the membrana tympani, in order to sterilize the region and render it unfit for the growth of the fungus, a plan I always follow now in the treatment of Aspergillus cases after they have become healed.

Until within a year I had found that alcohol, either pure or diluted with water, was the best parasiticide in cases of Aspergillus in the ear. Lately, however, that has been entirely abandoned for the prompter, gentler, and more convenient powder of boracic acid, borax, boracic acid with chinoline, or boracic acid with resorcin, one part of the latter to seven of the former.

The surgeon should blow in the selected powder every day till the parasite ceases to be reproduced and the ear has regained a normal condition. This will require but a few days, whereas the treatment by alcohol instillation used to require sometimes weeks, and always occasioned more or less smarting and, in some instances, pain. The powder insufflations are drying in their tendency, but the fluid treatment in any form, is macerating, and hence rather favors the growth of the fungus, and in many cases seems to favor or provoke an eczema, which is a troublesome complication. The dry treatment, therefore, is eminently successful in otitis externa excited by the growth of Aspergillus in the ear.

Theobald, of Baltimore, recommends as an efficient parasiticide in these cases, a powder of equal parts of boracic acid and oxide of zinc. I have found no powder so efficient as a parasiticide as that consisting of boracic acid and chinoline, in the proportions already given, because both ingredients are known to destroy bacteria and low forms of animal or vegetable life. But if the skin layer of the membrana tympani or of the wall of the auditory canal is broken, the chinoline-boracic acid powder, as given, will cause pain. But in such cases either the chinoline can be lessened or recourse may be had to pure boracic acid, which is nearly as efficient and so bland as to be borne by any ear.

COSMOLINE AND PETROLEUM IN DIPHTHERIA, WHOOPING-COUGH, AND MEASLES.

BY HARVEY L. BYRD, M.D.,
PRESIDENT AND PROFESSOR OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN, BALTIMORE MEDICAL COLLEGE, BALTIMORE, MD.

I HAVE been using petroleum locally to the throat for some time past whilst administering cosmoline internally as a remedy in diphtheria; and I beg to

add my testimony now to the value of petroleum and its preparation, both as remedies and prophylactics, in this terrible scourge. I am accustomed to administer cosmoline alone in alternation with lac sulphuris, or in conjunction with it, in eight to fifteen-grain doses of each, according to the age of the child, every two to four hours as required, whilst petroleum is applied to the throat externally. It has been used likewise with quinia, boracic acid, etc., with good results. And while I regard it as the chief factor in procuring relief in diphtheria, the gravity of the disease is such that I have refrained from relying upon its internal use to the exclusion of other remedial agents. I am quite decided in regard to its prophylactic powers, however, and have no hesitation in saying that I feel quite sure that more enlarged experience of the profession will assign it a high place on the list of *preventive*, if not that of *curative* agents also, in diphtheria. I am now accustomed to recommend the administration of cosmoline twice a day to the well children of a family, as soon as called to a case of the disease, and after considerable experience in that way, am pleased to say, with the result of protecting all those from the disease who have taken it in accordance with my directions. Did this statement seem to require the support of cases, it would be an easy matter to extend the length of this paper to several pages with the relation of the instances in which its prophylactic action was indubitably established, or proven so far at least as intelligent and deeply-interested human observation and testimony are capable of deciding anything. It is not deemed inappropriate to add a few words more on the use of cosmoline in two other diseases that affect the same, and anatomically adjacent, parts, and in both of which its action has been highly satisfactory. Those diseases are whooping-cough and measles. Having been satisfied for a long time past that a very large percentage of the diseases to which flesh is heir originate in specific germs, or spores, and that they are without doubt the *fons et origo* of all contagious diseases, I have directed my thoughts and investigations towards neutralizing their action, or the destruction of these extraneous organisms as far as practicable, by the use of appropriate remedies for such purpose.

Experience has demonstrated to me that cosmoline will lessen the violence of the paroxysm in whooping-cough, and loosen, as well as lessen, the mucus quite promptly, and while it may not abate to a considerable extent, it does undoubtedly mitigate, the violence of the attack and shortens the general course of the disease. I feel convinced that it also possesses excellent prophylactic powers in that disease. I have recommended it in repeated instances to the unaffected children in families, after the invasion of the disease, and I think I can say that it has always protected them when given regularly. It allays the cough, and other unpleasant symptoms, in measles, in a satisfactory manner, and I seldom prescribe anything in addition beyond Dover's syrup, or paregoric to procure rest or prevent the bowels from acting too freely. Of its prophylactic power, in this last disease, I am not prepared to speak with much confidence, as I have not tested its action in that way; but reasoning from analogy, as well as from experience in the diseases alluded to above, I should likewise expect satisfactory results from it in that way in an epidemic of measles. The field of usefulness which petroleum and its preparations must occupy, and act a conspicuous part in, in the future is a large one, and it grows more inviting to the scientific physician every day, as the *germ theory* of the origin of diseases becomes more and more *un fait accompli*; and as the arcanum of nature is rapidly yielding up its secrets to the unceasing demands of the great workers in our profession, the time for the fulfilment of this prognostication must be near at hand.

127 N. ARLINGTON AVENUE, September 19, 1882.

HOSPITAL NOTES.

VIENNA GENERAL HOSPITAL.

(Service of PROF. CARL BRAUN.)

CÆSAREAN SECTION FOR CARCINOMA CERVICI UTERI.

(Specially reported for THE MEDICAL NEWS.)

AN interesting case of carcinoma cervicis uteri graviditate has been recently observed and treated in Professor Braun's wards. The patient, a Styrian peasant woman, married, thirty-nine years old, presented herself at the clinic, complaining of unusual pains in her third pregnancy. She stated that her first pregnancy occurred in her nineteenth year, and teminated in the spontaneous delivery of a matured child; her second pregnancy followed in her twenty-ninth year, and resulted in the easy birth of another child at full term.

In January, February, March, and April of the present year, she had alarming hemorrhages from the genitals. The time of the hemorrhage and the quantity of blood lost were very variable. At the same time with this loss of blood, she began to feel sharp cutting pains, radiating from the sacrum to the umbilicus and shooting down the lower extremities into the feet. These pains kept constantly increasing in severity, until within ten weeks she had not been able to sleep for any length of time day nor night. A foul-smelling vaginal discharge was observed about the time of the hemorrhages, which also kept increasing in quantity and fetor up to date of admission into the hospital.

Menstruation ceased in May, according to her own story, and she dated her pregnancy at the latter end of April. Her appetite was exceptionally good, but her bowels were moved only upon the exhibition of a laxative.

The patient was tall, moderately thin and anæmic, with a generally cachectic appearance. Abdominal palpation revealed pregnancy in the eighth lunar month, transverse presentation, second position of the fœtus. The placenta was located upon the right side, anterior wall of the uterus. Vaginal examination revealed the cervix uteri infiltrated around its circumference with carcinoma; the fornix vaginæ also in the same condition. The vaginal portion of the cervix had not disappeared, and the os externum was dilated for one finger. The os was very sensitive and hemorrhage followed the most carefully conducted examination. The diagnosis of carcinoma of the cervix uteri seemed perfectly justified.

Two methods of treatment were suggested: (*a*) hysterostomatomy and version; or (*b*), sectio Cæsarea.

Labor pains were felt for the first time Sept. 28, 7 o'clock A.M., followed immediately by rupture of the

bag of waters. The amniotic fluid was perfectly clear, and the fœtal heart tones were strong and regular. A consultation between privat-docent Von Massari and Dr. Edward Pritzl, second assistant upon the clinic, was at once called, and sectio Cæsarea agreed upon. Three hours later Dr. Pritzl operated upon the woman, choosing Porro's method of supravaginal amputation of the vaginal portion, or hysterotomy, with Müller's modification. The operation lasted one hour. A fœtus of male sex, weighing 2550 grm., with length of 47 cm., was extracted from the uterine cavity in a profoundly asphyxiated condition. The child lived thirty minutes after birth, but was evidently a viable product and apparently eight lunar months old.

Billroth's ecraseur was employed to compress the stump of the cervix and was left in the lower angle of the abdominal incision. The stump was secured in the abdominal wound according to Hegar's extra-peritoneal method. Patient's temperature before and immediately after the operation was 37.6° C. The portion of the uterus removed from the body of the patient was perfectly normal and presented no sign of cancerous invasion upon microscopic investigation.

The patient survived the operation exactly seven days. No consecutive hemorrhage occurred and the abdomen, up to the time of death, remained perfectly concave.

The autopsy conducted in the presence of Professor Braun and his assistants, by Professor Kundrat, was interesting in two particulars. A very slight, diffused peritonitis, with a very small quantity of fluid, was noticed. The carcinoma was found to be confined almost entirely to the fornix vaginæ and only superficially attacking the vaginal portion of the cervix. The narrow, hemorrhagic, ragged edge, taken for the os externum, upon vaginal examination proved to be a carcinomatous stricture of the fornix vaginæ. Metastatic deposits of carcinoma were found in the lungs. A large thrombus was found in the left common iliac vein extending up into the inferior cava.

An interesting fact about operations after Porro's method, with Hegar's extra-peritoneal treatment of the stump, is that after a very variable time the stump sinks deep into the pelvis, and all attachment to the abdominal parietes is ultimately severed.

The anæsthetic employed during the operation is the one Billroth usually uses, and consists of

Chloroform, ...	100 parts.
Absolute alcohol, ...	
Sulphuric ether, of each, . .	30 parts.

MEDICAL PROGRESS.

A Case of Gastrostomy.—On the 4th inst., Mr. Francis Mason performed the first step of this operation at St. Thomas's Hospital, on a man aged about sixty, for rapidly increasing carcinoma of the left tonsil and neighboring parts. An incision about two inches and a half in length was made parallel with the costal cartilages of the left side and about a finger's breadth from their margin, the lower end of which was about opposite the ninth rib. The structures of the abdominal wall were divided until the peritoneum was reached, which was carefully opened. The forefinger and thumb of the left hand were then introduced, and, guided by the left lobe of the liver, the stomach was readily grasped and brought out slightly at the wound. Great care was taken, both before and after the peritoneal cavity was opened, to arrest all hemorrhage with catgut ligatures. The parietal layer of the peritoneum was accurately adjusted in contact with the visceral layer of the stomach, and the two surfaces were kept in contact by passing a carbolized silk thread through the whole thickness of the abdominal parietes, and also through the serous and muscular walls of the stomach; four such stitches were employed. Two other deep sutures were made to transfix each end of the wound only, care being taken to include the peritoneum. Lastly, a stitch was passed through the serous and muscular walls of the stomach itself, and was left hanging from the wound to be used as a guide for the future opening of the stomach. Superficial stitches were used to unite the edges of the skin wound. The operation was performed throughout under the carbolic spray, and dressed with the usual antiseptic precautions. The patient was very comfortable during the remainder of the day and passed a good night, but on the following day he complained of hiccough, which distressed him a good deal, giving rise to a painful dragging in the region of the wound. This was allayed by the administration of small doses of medicine containing dilute hydrocyanic acid; beyond this nothing but ice in small quantities, and afterwards, at the patient's special request, a small quantity of tea was allowed by the mouth, he being fed by nutrient enemata. On the second day there was some difficulty of breathing, and he spoke of a sensation of not being able to cough up phlegm and other accumulations from the air-passages. Still his temperature kept fairly normal. On the third day, however, the temperature rose to 101°, and in the afternoon his dyspnœa became so urgent that it was thought necessary to perform tracheotomy as a *dernier ressort*. This operation was performed by Mr. Duncan, the house-surgeon, with some relief, but, in two or three hours after, the patient died, apparently from exhaustion, exactly seventy-two hours after the gastrostomy was performed. At the post-mortem examination, it was found that adhesion of moderate firmness had taken place between the visceral and parietal layers of the peritoneum at the site of the operation, but not sufficiently firm to heal. The mucous surface of the stomach had not been perforated, and there was no general peritonitis. It may be added that the patient inhaled ether during the operation, which may possibly account for the dyspnœa, and also that he had some symptoms of carbolic poisoning, as indicated by the condition of the urine during life.—*Lancet*, October 14, 1882.

Sudden Death in Gastric Ulcer from Entrance of Air into the Bloodvessels.—Jurgensen has recently met with two cases of this nature, one of which he describes with considerable detail. A woman aged 49, had for years suffered from the symptoms of gastric ulcer, particularly from repeated exhausting hemorrhages from the stomach, by which she was reduced to the last degree of anæmia; she died suddenly. At the autopsy, an ulcer 6 to 7 centimetres in diameter was found on the posterior wall of the stomach; the pancreas, duodenum, and left kidney, were all adherent to the ulcer, on the surface of which there was found a large vein, probably the splenic, with a slit-like opening in its walls about one centimetre in length. The stomach was filled with clots: the veins of the liver and spleen were filled with air. Air was also found in the veins of the stomach, in the jugular veins, pericardium, heart cavities, sub-serous cardiac tissue, and pulmonary bloodvessels. There was also subplural and sub-intestino peritoneal emphysema.—*Deutsches Arch. für klin. Med.*, August, 1882.

Comparative Sizes of Organs.—Drs. H. P. Bowditch and F. A. Harris give the following comparative measurements in their report on the best method of collecting data at autopsies:

1. Before the period of puberty the aorta is *smaller* than the pulmonary artery, after this period the rela-

tion begins to be reversed, and in advanced life the aorta is always *larger* than the pulmonary artery.

2. The aorta and pulmonary artery are absolutely smaller in the female than in the male, but relatively to the length of the body there is scarcely any difference between the circumference of the arteries in the two sexes, while the heart in females is absolutely as well as relatively a little smaller than in males.

3. In adult males the volume of the lungs is greater than that of the liver; in adult females the reverse seems to be true.

4. In men, the volume of the two kidneys is nearly equal to that of the heart; in children it is greater.

5. Children have a relatively larger intestinal canal than adults.

6. A sudden increase in the size of the heart occurs at the period of puberty.

7. The iliac arteries diminish in size during the first three months of life.

8. The cancerous diathesis is, in the majority of cases, associated with a large and powerful heart and capacious arteries, but a relatively small pulmonary artery, small lungs, well-developed bones and muscles, and tolerably abundant adipose tissue.

9. Pulmonary tuberculosis is often associated with an unusually small heart.

10. In constitutional rachitis the heart is generally large and well developed; the arteries are also large. —*Boston Med. and Surg. Journ.*, Oct. 19, 1882.

LIGATURE OF THE INNOMINATA.—The full details of Mr. Thompson's case of ligature of the innominata artery for aneurism, whose progress and result have been given in our columns, is published in the *British Medical Journal* for October 14, 1882. This case was the first in which Listerism and animal ligature were combined in deligation of the arteria innominata. Through some misfortune, the unclosed portion of the wound ceased to be aseptic after the eleventh day, and to that Mr. Thompson attributes the regrettable result; but his experience of this case leads him to say that, with an antiseptic condition of wound, and with a broad animal ligature, the operation is not only feasible, but justifiable; and that, personally, he should not hesitate to do it again, and with good hope of success.

TREATMENT OF ABSCESS OF THE LIVER BY LARGE OPENINGS.—At the meeting of the Académie de Médecine held October 3, 1882, M. J. ROCHARD referred to a communication which he had made in October, 1880, in reference to the method of treating abscess of the liver employed by the physicians of Shanghai: the method consists in freely opening the abscess after the diagnosis has been confirmed by an exploratory puncture, using the needle as a director to the incision, and then employing Lister's method of dressings. Since then M. Rochard has received numerous communications which have served to strengthen his confidence in the value of this plan of treating hepatic abscess, among others, two recent cases. Of these, the first was that of a mulatto aged 23 years, operated upon by Dr. Scotland, nearly two litres of pus being drawn off: improvement was immediate and cure rapid. The second case occurred under the care of Dr. Bernard in a girl aged 19 years, in whom free incision was employed after aspiration had failed to give any relief: a cure also resulted in this case.—*Gaz. Médicale de Paris*, October 7, 1882.

THE EFFECTS OF BROMIDE OF ETHYLE IN HYSTERIA AND EPILEPSY.—DR. BOURNEVILLE, physician to the Bicêtre Asylum, after several experiments to ascertain the effects of the bromide of ethyle in cases of hysteria and epilepsy, has come to the following conclusions: 1. The dilation of the pupil at the commencement of the inhalations of the bromide of ethyle is not constant. 2. The complete muscular resolution is exceptional. 3. Anæsthesia is produced in different degrees, according to the subjects experimented on. 4. The temperature, the secretions, and the general state of the patient do not appear to undergo any modification. 5. The pulse and the respiration are slightly accelerated. 6. Trembling of the limbs in a more or less marked degree during the inhalation may be produced, but it does not persist after the cessation of the inhalation. 7. Hysterical attacks are in general easily arrested by the bromide of ethyle. 8. Epileptic fits may sometimes be arrested by administering the medicine at the commencement of the tonic stage; more frequently, however, the inhalations produce no effect. 9. In epilepsy the regular employment of the bromide of ethyle, administered by inhalations daily during one or two months, greatly diminishes the frequency of the attacks.—*Lancet*, October 14, 1882.

TRAUMATIC SPASM OF THE ŒSOPHAGUS.—In the *Union Médicale* for October 12, 1882, M. COURTADE reports a case which seems to show that a blow on the head or thorax in an individual showing before then no disturbance of the nervous system may be followed by persistent spasm of the œsophagus. In the case reported bromide of potassium in large doses and repeated catheterization were sufficient to produce a cure.

OSTEOMALACIA IN CHILDREN.—DR. H. REHN believes that this disease is not as rare in children as has been supposed. He reported, in the recent Congress of German Naturalists at Eisenach, the case of a female child in whom there was marked flexibility of the bones of the extremities and thorax; both scapulæ were thin and bent, as well as the clavicles, the humerus, radius, and ulna. Death occurred from bronchitis, and Recklinghausen confirmed the diagnosis. Five other cases are also mentioned, from which he draws the following summary of the characteristic symptoms of this disease: Flexibility of the bones and pain on motion; absence of fever and indisposition to move; deposit of phosphates in the urine; chronic course; majority of cases females, as is the case in adults. Two of five cases under his care recovered. This disease can be attributed to faulty nourishment, particularly to absence or insufficiency of lime salts.—*All. Wiener Med. Zeit.*, October 3, 1882.

NEW METHOD OF DILATATION OF THE EUSTACHIAN TUBE BY ELECTROLYSIS.—M. J. MERCIÉ has been applying with success, in the clinic of DR. DÉSARÈNES, for the dilatation of strictures of the Eustachian tube, the method employed by Dr. Gorecki in the treatment of nasal and urethral strictures. The method consists in first introducing an ordinary Eustachian catheter and passing through it, while the patient pronounces the syllable *mi*, a fine bougie, and allowing it to remain in position five or ten minutes; this process is repeated until it has been found by inspection that the sound has reached the middle ear. When the tube has been dilated to this extent, the elastic sound is replaced by a flexible metal one connected with the negative pole of a weak battery, while a disk of metal connected with the positive pole is placed in the external auditory canal. This procedure is unaccompanied by any danger, if the current is weak and great care is observed in inserting the metal sound; and although it has not been very frequently employed, the success was such in those instances as to encourage its subsequent use.—*Rev. de Thérapeutique* Oct. 1, 1882.

A NEW TEST FOR ALBUMEN IN THE URINE.—When an albuminous urine is treated with a saturated solution of common salt, not the slightest reaction takes place; but if the brine be slightly acidulated with hydrochloric acid, according to DR. WM. ROBERTS, the albumen is thrown down as a dense white cloud. This reaction constitutes a most delicate test for albumen in the urine. The best degree of acidulation for this purpose is obtained with about 5 per cent. of the dilute hydrochloric acid of the Pharmacopœia. A little more or a little less acid makes no appreciable difference in the sensitiveness of the test. Common salt dissolves in about two and a half times its weight of water at 60° F., and increase of temperature does not sensibly increase its solubility. The salt of commerce is always more or less dirty, and the solution requires filtration to fit it for use as a test. The salt solution should be fully saturated, otherwise the observer is apt to be led into error. In preparing the test with our common English measure the readiest plan is to mix a fluidounce of dilute hydrochloric acid with a pint of water, and to saturate this with common salt, and filter. Dilute hydrochloric acid may be replaced by dilute sulphuric, dilute nitric, or dilute phosphoric acid. All these acids are of the same saturating strength in the British Pharmacopœia, and all of them yield with saturated salt solution an equally sensitive reagent for albumen. Even acetic acid may be used, but the delicacy of the test in that case is not quite so great as when it is prepared with one of the mineral acids. The method of applying the briny test is similar to that followed with nitric acid. A portion of the suspected urine is placed in a test-tube, the test-tube is then held very much aslant, and the salt solution is allowed to trickle along the sides of the tube to the bottom, so that it may form a distinct layer below the urine. If albumen be present, a white cloudy zone appears at the junction of the two fluids. Or the proceeding may be reversed. The salt solution may be first introduced into the test-tube, and then the urine added with the same precautions as before, so as to obtain two distinct layers, one above the other, in the test-tube. It is important to be aware that the precipitation of albumen by acidulated brine is not due to a true coagulation. In this respect the brine test differs from nitric acid and boiling. In the two latter cases the albumen is transformed into the insoluble modification, which is known as "coagulated albumen." But when albumen is thrown down from urine by accidulated brine, the precipitate is not insoluble; on the contrary, it is redissolved by free addition of water, or even by free addition of the albuminous urine itself. It is therefore essential to the efficient application of the test that the salt solution should be in excess at the point of expected reaction. This end is obviously secured in the above described methods of testing. In point of delicacy the salt test stands on a par with nitric acid. The minutest trace of albumen detectable in the urine by nitric acid is also detectable with equal ease by acidulated brine. In high-colored urine the brine test is distinctly superior. —*Lancet*, October 14, 1882.

EXCISION OF MECKEL'S GANGLION AND THE SUPERIOR MAXILLARY NERVE.—Last week at the General Hospital, Birmingham, MR. T. P. CHAVASSE excised the superior maxillary nerve at its exit from the foramen rotundum to its facial termination, Meckel's ganglion being removed. The spheno-palatine fossa was reached by trephining the anterior and posterior walls of the antrum, and tracing back the infra-orbital nerve. The operation was performed for obstinate neuralgia of fourteen years' standing, in a man aged fifty. The wound has virtually healed, and there has been no recurrence of the pain. This operation has been previously performed by James R. Wood and Carnochan, of New York, and, we believe, a very similar one was once before performed in England.—*British Medical Journal*, October 14, 1882.

TREATMENT OF DIABETES WITH BROMIDE OF POTASSIUM.—In our numbers for September 2, and October 21, we alluded to the above treatment of diabetes advocated by Dr. Felizet. In the current number of the *Journal de Médecine de Paris* (October 7), the editor, M. BERGERON, announces that he has just seen the sugar entirely disappear from the urine of a diabetic patient under fifteen days' treatment, four grammes of the bromide being taken each day.

TREATMENT OF CATARRHAL ANGINA.—Under this term, DR. FRAENKEL (*Verhandl. der Berl. Med. Gesellsch.*, Band xii. p. 239) understands mainly that form called tonsillitis lacunaris, a disease which, he says, in the great majority of cases, subsides without treatment, so that our object can only be to shorten or render it less severe. The use of astringents, such as nitrate of silver, he considers useless, as the disease lies mainly in the crypts of the tonsils, which the astringent does not reach. The same is true of gargles and of inhalations, while the former, in addition, frequently of themselves cause unpleasant sensations in the throat. At the same time, it must not be understood from this that the throat is to be left dry in this affection. The use of emollients gives frequently much relief. Dr. Fraenkel has tried submucous injections of a carbolic acid solution, so as to be sure of reaching the crypts, but has seen no benefit from them. Among internal remedies for the disease, Dr. Fraenkel has seen no good result from chlorate of potash, which he has found most useful in certain forms of stomatitis. Of guaiacum, recommended strongly by Dr. Morell Mackenzie, he has had no experience, nor has he had any experience of tincture of aconite, which last remedy, he appears to think, has been borrowed from homœopathic sources by English physicians. Ice and cold applications are to many most grateful, while to others they are absolutely intolerable. For some time, Dr. Fraenkel has treated all his cases either with quinine or with salicylate of sodium. Of fifteen cases treated with large doses of quinine, not one has lasted longer than forty-eight hours, the usual average being from two to five days, he believes. Dr. Fraenkel himself has suffered frequently from this disease, and has never so quickly recovered from any treatment as from this. He takes three doses of about four grains of quinine within an hour at night. Notwithstanding, however, that quinine so shortens the disease, it does not in certain cases prevent the formation of peritonsillar abscess. The *rationale* of the action of quinine Dr. Fraenkel does not pretend fully to understand. Its antiphlogistic antifermentative actions seem scarcely enough to explain it, for salicylic acid seems to have no such favorable action, and while tonsillitis is well known to be infectious, it can scarcely be called one of the infectious diseases proper, for one attack rather predisposes to others. He recommends the treatment to the attention of physicians, as each can have only a limited number of such cases under his care.—*London Medical Record*, October 15, 1882.

BROMINE AS A DISINFECTANT.—In a paper on the above subject, read at the Berlin Apothecaries' Congress, DR. FRANKE, of Charlottenburg, called attention to the fact that the difference between disinfection and deodorization has only recently been appreciated by the general public. It is, however, now known that many inodorous substances are highly dangerous communicators of disease. The researches of Dr. Koch

have brought to light the fact that a number of so-called disinfectants which have been employed for many years are quite insufficient preservatives against many kinds of disease-germs. Thus of late the search after new and reliable disinfectants has been actively carried on. Bromine has materially decreased in price since its production on a large scale at Stassfurt has made it an article of commerce, and Dr. Franke claims to have succeeded in obviating the difficulties which its strong corrosive qualities and other circumstances placed in the way of its general adoption. By the employment of organic acid combinations of alkalies he has succeeded in obtaining in a fluid form eight-tenths of the volume of bromine. The evaporation of the bromine is, he states, thereby considerably retarded, and a permanent disinfection facilitated. For mere deodorization a comparatively small quantity of bromine suffices, while for real disinfection a greater bulk is required. Experiments made by the Berlin sanitary officials have resulted in the fact being established that three and a half ounces of bromine could disinfect a space of 918 cubic feet against the most inveterate forms of infection, for removing which sulphurous acid had proved unsuccessful. Other experiments showed that for simple deodorization one-third of an ounce of bromine, hung up high, is sufficient for a space of 7,000 cubic feet. With reference to the use of bromine in the practice of medicine, he remarked that in a gaseous form bromine could be introduced into parts of the body not accessible to any other corrosive agent. In connection with the corrosive properties of bromine, he stated that petroleum had been accidentally discovered to be a cure for burns caused by bromine in a fluid state.—*Lancet*, October 14, 1882.

UNSUCCESSFUL PORRO OPERATION FOR UTERINE FIBROID.—L. PROCHOWNICK reports a case of removal of the uterus by Porro's operation for fibroid tumor, in which death occurred on the third day from septicæmia.—*Deutsche Med. Woch.*, Sept. 30, 1882.

POISONING BY MALE FERN.—A death is reported from Columbo, Ceylon, where a gentleman was prescribed three-quarters of an ounce of ethereal extract of male fern and a drachm and a half of Pulv. Kamalæ, for the cure of tape-worm, and the dose was repeated in four hours. The patient sank, with symptoms resembling those of choleraic diarrhœa. The necropsy revealed congestion of the stomach, with ecchymoses beneath the mucous membrane, and small clots of blood upon the mucous surface of that organ. There were similar patches in both the small and large intestines. Indeed, there was clear evidence of the administration of an irritant poison. The prescription is said to have been one copied by the medical attendant of the deceased gentleman from a work of repute, where the quantity of extract of male fern is apparently a misprint.—*British Medical Journal*, Oct. 14, 1882.

LESIONS OF THE TEETH IN LOCOMOTOR ATAXY.—At the meeting of the French Association for the Advancement of Science, on August 30, a communication was made by M. Th. David upon lesions of the teeth found in locomotor ataxy. The paper was based upon the observation of a single case, and the following are the most important of the conclusions arrived at from an attentive study of it. The alteration consisted of a rapid decay of the anterior part of the crown of almost all the teeth. The altered substance assumed the consistence of touchwood and a reddish color. The enamel still retained its polish, but not its hardness. Beneath those parts the pulp had produced a new layer of secondary dentine, and in most of the front teeth the pulp-cavity was filled up. These alterations had nothing in common with caries, and must be referred to nutritive disturbance resulting from the lesion of the central nervous system. The changes are analogous to those which have already been observed to take place in the nails in the course of locomotor ataxy; they would thus establish a pathological relationship between organs already connected by a common epithelial origin. Locally, these alterations recognize for their immediate cause a functional disturbance or a lesion of the dental pulp. The atrophy which has been shown to exist would be quite comparable to that which is observed in the eye under similar circumstances. Whence the final conclusion that we must attribute to the dental pulp the physiological significance of a sensory organ.—*Medical Times and Gazette*, October 14, 1882.

PERFORATION OF THE ŒSOPHAGUS BY A PIECE OF GLASS: EXTRACTION THROUGH THE ANTERIOR ABDOMINAL WALL.—PROF. KUESTER reports in the *Medizinish-chirurgisches Centralblatt* for September 29, the remarkable case of a man who accidentally swallowed a small triangular piece of glass, which became fixed in the cardiac region, and for a year and a half resisted all attempts at extraction, caused the most intense pain and spasms of coughing, and rendered swallowing almost impossible. Frequent hypodermic injections of chloroform in the epigastric region to allay pain resulted in a slough and abscess, through which the piece of glass was discharged. Complete recovery ultimately resulted.

NEW METHOD OF PREPARING BLISTERS.—M. LIMOUSIN (*Rép. de Pharm.*, June, 1882) has devised a new form of blister, with a view to afford a greater variety of choice in degree and kind of vesication, and also with a view to preserve the ready-made blister. He spreads a thin layer of ordinary blistering cerate upon strong, thin, unsized paper, and covers it with the same. The vesicating layer is about one and a half millimetres in thickness, and one of its surfaces is camphorated. When using the blister, its outline is marked upon the paper covering it; it is then cut off and applied to the part by means of a piece of adhesive plaster. The covering paper may be readily removed, both from the plain and from the camphorated side, by means of a wet sponge. If the physician order a blister covered with oiled paper, it is only necessary to saturate the covering paper with oil. The same process may be also used for the preparation of other plasters. *London Medical Record*, October 15, 1882.

A READY METHOD FOR THE VOLUMETRIC ESTIMATION OF ALBUMEN IN THE URINE.—MR. GUY NEVILLE STEPHEN recommends for this purpose a method suggested by Tauret, of Troyes, as far back as 1872. The basis of this method is the precipitation of albumen by the double iodide of mercury and potassium, and it is equally applicable both for testing for and estimating albumen. In urine loaded with urates a precipitate of uric acid may be thrown down when the acetic acid is added, but merely diluting the urine with water will cause it to disappear. Mucus, too, if present, may also be precipitated by the acid, but will give no trouble, as it is quite different in appearance to the precipitate of albumen, and will have dropped to the bottom before the solution is added; and, lastly, if the acetic acid be not used in sufficient quantity to make the urine decidedly acid, urea may be thrown down by the after addition of the potassio-mercuric iodide.

Estimation.—The process for this is extremely simple and rapid, and only requires that the solution employed be of known strength, and that the quantity used both of it and of the acid and urine be carefully

noted, and the complete precipitation of the albumen proved by a second solution. Besides the solution and acid, a glass, graduated in cubic centimetres, a pipette giving drops of five centigrammes, and a few glass stirrers, are all that is required. For the precipitating solution the formula is—potassii iodidi, 3 grms. 22; hydrargyri bichloridi, 1 grm. 35; aquæ destillatæ, q. s. ad. 100 cc. For the confirmatory solution—hydrargyri bichloridi, 1 grm.; aquæ destillatæ, q. s. ad. 100 cc. One drop of the precipitating solution given by a pipette of the above size precipitates 0.005 of albumen; so that so many drops as it takes to precipitate all the albumen, so many times 0.005 of albumen must there have been in solution. To save trouble in calculation, the same quantity of urine should always be taken, and the best quantity to take is 10 cc., as then the number of drops of the solution that it takes to precipitate all the albumen in this quantity of urine represents so many half grammes of albumen to the litre. Take then 10 cc. of urine, and add two of acetic acid, and stir with a glass rod; then add the precipitate solution drop by drop, stirring carefully each time, until the precipitate is no longer redissolved in the albumen in excess—*i. e.*, as yet unaffected by the reagent; then after each drop of the solution put a drop of the urine on a porcelain dish and watch if a yellowish-red color appears on adding a minute drop of the confirmatory solution. As soon as it does, all the albumen is precipitated and the process is finished, and the amount of albumen per litre will be at once arrived at by taking the number of drops employed of the precipitating solution, substracting three as having been used in excess to make the yellow color perfectly clear, and then considering the rest as so many half grammes.

The chemical reactions and data upon which the above depends are $2KI+HgCl=HgIKI+KCl$. When the double iodide of mercury and potassium thus formed is added to albuminous urine sufficiently acidified, all the albumen is precipitated in combination with the mercury and iodide of the reagent, in the proportion of the equivalent of HgIKI, weighing 393 to 1 equivalent of albumen, $C_{68}H_{70}Az_{11}O_{33}$, weighing 1004, while the potassium is taken up by the acid of the urine. As long as any albumen remains in solution the double iodide of mercury and potassium will not form red iodide of mercury when bichloride of mercury is added to it, but it does so as soon as all the albumen is precipitated. The solution formulated above is such that every drop of 0 grm. .05 contains 0 grm. .00196 of HgIKI, and therefore in accordance with the equivalents given will precipitate .005 of albumen.—*Lancet*, Oct. 14, 1882.

Rare Complications of Chronic Gonorrhœa in the Male.—Dr. Vagda has written on this subject in the last two numbers of the *Wiener med. Woch.* (37 and 38). The essence of what he has to say comes to this: Owing to the prolonged irritation of the chronic discharge, the epithelial and connective tissues may get hypertrophied, so that the former may become from four to twelve times its normal thickness, whilst the latter may form outgrowths, which in the early stage are non-vascular. The neoplastic epithelial formation, by pressure of its own elements *inter se*, may lead to the total destruction of the normal cylindrical layer of cells. This overgrowth of epithelia may accumulate in clumps anywhere, but has a predilection for the hypertrophied papillæ and warts, where it mounts their summits and descends into the clefts and fissures between them. The warts may be found in any part of the urethra, and are very small, conical, brush-shaped, or clavate growths, which are either enlarged normal papillæ or are outgrowths from the newly-formed connective tissue. Should these warty excrescences themselves begin to grow, they may give rise to secondary offshoots and become vascular, and then are analogous to the gonorrhœal warts so frequently seen on the prepuce or glans penis and just within the external orifice of the urethra.—*Med. Times and Gaz.*, Oct. 14, 1882.

New Antiseptics for Surgical Use.—Certain inconveniences and disadvantages attending the use of carbolic acid spray in dressing wounds have led to a general search for acceptable substitutes. One of the most promising is the use of substances which are volatile as well as of antiseptic nature, such as eucalyptol, cajeput, terebene, and peppermint, by means of which a wound may be kept, if necessary, in an antiseptic atmosphere not merely while being dressed, but at all times.

At the late annual meeting of the British Medical Association Mr. A. W. Mayo Robson described a series of experiments made by him to test the efficiency of atmospheres charged with such volatile antiseptics in preventing the development of life in putrescible fluids, the results being exceedingly encouraging. Flasks of sterilized hay infusion suspended in large, wide-mouthed, open jars, into which a little eucalyptus oil, cajeput oil, or the like, had been poured, remained clear, while flasks of the same infusion briefly exposed to ordinary air and then covered with cotton wool began to lose clearness and to scum over within a few hours. Altogether the results were thought to indicate that at ordinary temperatures air saturated with vapors of the class named was fatal to the germs of bacteria and micrococci, and probably also to the germs of fevers and other infectious diseases. As the vapors tested are not unpleasant or injurious when breathed, it is to be hoped that practical tests in hospital wards will confirm the promise of Mr. Robson's experiments. As eucalyptol—derived from the common eucalyptus—is abundant and cheap, it has been selected for further tests. Several surgeons have taken part in these tests, and the results are decidedly encouraging. When the vapor is used during surgical operations a bellows is employed to discharge air charged with it upon the spot exposed. The air is first drawn through a vessel filled with cotton wool, then through others filled with pumice stone over which a small quantity of eucalyptol has been poured. The emerging air is thus loaded with invisible particles of the antiseptic, which seem to be capable of destroying any vestiges of germ-life which may have been drawn in from the surrounding atmosphere. This is a pleasanter method than Lister's or the boroglyceride treatment of Professor Barff.

Not less promising is the turf-mould dressing of Dr. Neuber, of Kiel, the result of investigations of the antiseptic qualities of turf-mould made by him during the past two years. The fibrous and friable character of turf, and its lightness, softness, and elasticity, make this substance much neater and more comfortable than "dry earth" as a surgical dressing; and it seems also to have much greater antiseptic power. The mould, reduced to powder, is inclosed in bags of carbolized gauze, and simply bound upon the wound, which has previously been washed with a carbolic or other antiseptic lotion. This dressing has been used by Professor Esmarch in fifty-five cases, most of them severe operations, with wonderfully good results. In thirty-one cases there was no fever, and in only five cases was it necessary to remove the dressing, owing to either local or general disturbance. The chief advantages claimed for this dressing are its great absorbent power, its tendency to prevent the formation of putrefactive products; the easy adaptability of the turf pads to the surfaces of the body and limbs; and its cheapness, the cost being about one-ninth that of the Listerian dressings. For use

in public hospitals and in private practice among the poor, the element of economy is a very important one.

Another great advantage, if the apparent virtues of turf-mould are confirmed by wide experience, will arise from the circumstance that it is everywhere obtainable. Dr. Neuber's attention was drawn to its possible merits by the appearance in the clinic of Professor Esmarch of a patient who reported that his arm had been badly hurt eight or ten days before while he was at work upon a moor. The injured arm had been simply covered with mould and protected by a rude wooden splint. The patient appeared to be in good general health. When the primitive dressing was removed the surgeons were astonished to find that with an extensive laceration of the soft parts of the arm, a rupture of the wrist-joint, and a fracture of both bones of the forearm, the wound was free from suppuration—in some parts already united by first intention, in others granulating in a satisfactory manner. The physical condition of the patient and the purity of the country air may have contributed somewhat to the healthy condition of the seemingly neglected wound; but, as subsequent trials proved, the main protection came from the antiseptic mould; a dressing most easily obtained where other antiseptics are to be had with difficulty. Country practitioners and workmen on railways and other works away from surgeons and surgical appliances, will do well to bear this fact in mind. Of course, care must be exercised in selecting turf-mould for such purposes from spots not likely to be subject to local contaminations, else it might serve to introduce the very germ which it is sought to avoid and exclude.—*Scientific American*, October 21, 1882.

TREATMENT OF RANULA.—In the *Gazette des Hôpitaux*, No. 113, an example is related of the successful treatment of a ranula by M. Anger's method, which consists in injecting by means of a Pravaz syringe one or two drops of deliquescent chloride of zinc, without having previously discharged the contents of the cyst. Considerable inflammation followed the injection, but without phlegmon or gangrene. The sac became retracted, its liquid contents having been absorbed. Whether a relapse may not take place cannot be certainly stated; but this has not occurred in several other cases that have been thus operated upon. Against the objection that the procedure causes sharp inflammation and is very painful, have to be set its facility and efficacy.—*Med. Times and Gaz.*, Oct. 14, 1882.

THE INDICATIONS FOR NEPHRECTOMY.—DR. LUIGI BRICHETTI (*Gaz. degli Ospitali*, Aug. 9) thus sums up what he considers the chief indications for nephrectomy: 1. Certain wounds of one or both kidneys; 2. Movable kidney, complicated with neuralgia; 3. Tumors of the kidney, hydro- or pyonephrosis; 4. Renal calculi; 5. Parasites; 6. Certain affections of the ureters. In the majority of cases of pyonephritis, the author, however, would prefer large incisions into the organ, kept open with drainage-tubes, rather than its removal, especially after gunshot wounds.—*London Medical Record*, October 15, 1882.

THE TREATMENT OF SYPHILIS BY SUBCUTANEOUS INJECTION OF MERCURIAL SALTS.—LETNIK (*Wratsch*) believes that the time is not far distant when all other modes of treating syphilis will be displaced by the subcutaneous injection of mercury. In the cases of prostitutes, who frequently, in hospital, refuse to submit to the ordinary course of treatment, this method of administering the remedy is almost indispensable. Its advantages are stated as follows: 1. The dose may be more nicely graduated. 2. Baths and frequent changes of linen are dispensed with in the treatment of the poor. 3. The rapid disappearance of fresh syphilitic symptoms, often after only six or eight injections. 4. The patient will possibly be able to continue his usual occupation. 5. The whole course of treatment is shortened. Taking the results of various authors in 1892 cases (during 5 years), Letnik finds that the average duration of various modes of treatment is as follows: *α*. Internal treatment, 78⅓ days. *β*. Inunction course, 56 days. *γ*. Subcutaneous injection course, 32 days—the length of the latter course of treatment being less than half that in which the remedy is given by the mouth. 6. Stomatitis is remarkably rare. 7. The general health is improved rather than injured, although no change is made in the diet. Letnik has treated thus 210 cases. The treatment was abandoned only five times, three times in much reduced patients, in whom severe nervous symptoms were observed after each injection, and twice in cases of rupia syphilit., where no benefit was attained. Whilst 172 patients exhibited the malady under the form of exanthemata or condylomata, 32 were suffering from advanced syphilis. The number of injections in any one case varied from 20 (minimum) to 45 (maximum). The salts employed were chloride of mercury with sodium chloride, corrosive sublimate ($HgCl_2$) with morphia, and bicyanide of mercury. The pain produced by the first-named solution lasted about 15 minutes, while that caused by the others remained for half an hour. The local induration after injection of the mercury-sodium salt lasted at most 5 or 6 days; that after the cyanide 20 days or more. No experiments with mercury albuminate and its allies were made.—*Edinburgh Medical Journal*, October, 1882.

CASE OF HEPATIC ABSCESS TREATED BY ANTISEPTIC INCISION: CURE.—PROF. KUESTER reports the case of a man, aged fifty-eight years, with a painful, fluctuating tumor of the hepatic region, which, on aspiration, proved to be an abscess of the liver. As it became superficial, and was evidently on the point of opening spontaneously, it was opened antiseptically, and the cavity treated by drainage. The case was cured.—*Med.-chir. Centralb.*, Oct. 6, 1882.

OCULAR CHANGES IN HEPATIC DISEASE.—Hemorrhages into the retina have been found in catarrhal jaundice, gall-stones, carcinoma, cirrhosis, abscess, acute atrophy, phosphorus poisoning, dropsy of the gall-bladder, and in pneumonia accompanied by icterus. Such extravasations are by no means always of bad omen, seeing that they may accompany a harmless catarrh, provided this be attended by jaundice. In a case of acute yellow atrophy due to phosphorus poisoning, Litten (*Wiener med. Woch.*, No. 39) found, by the side of multiple fresh hemorrhages into both retinæ, certain white areas situate in the granular layer, which microscopically showed fatty degeneration with tufts of tyrosin and granular spheres (? leucin). The blood capillaries had undergone marked fatty metamorphosis. In two cases of atrophic cirrhosis, Litten observed simultaneous pigmentary degeneration of the retina, which in one instance had developed after the liver disease had already been of long standing, whilst in the other case it was found in the course of the first year. The formation of pigment may extend very rapidly. Hemeralopia (night-blindness) sometimes accompanied a hypertrophic or atrophic hepatic cirrhosis without any sign of organic change in the structures of the eye. Immediately after the tapping of a considerable amount of ascites a neuro-retinitis developed itself, with slight swelling of the optic disk and exudation into the tissues and around the vessels.—*Med. Times and Gazette*, October 14, 1882.

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IS CONSUMPTION CONTAGIOUS?

THE infective nature of tubercle has been a subject of unremitting investigation since the experiments of Villemin were first promulgated. According to these observations, when tubercle was injected under the skin or thrown into the cavities of rabbits, general tuberculosis followed. But it was soon ascertained that rabbits are scrofulous subjects—so to speak—in whom suppurative inflammation of any kind induces tuberculosis. Notwithstanding these adverse observations, there was a growing conviction that something of a specific nature existed in genuine tubercle. Then Klebs, and afterwards Aufrecht, announced the discovery of the tubercle parasite. Their descriptions of the organism did not agree, and they and others who have isolated a supposed infective principle of tubercle, differ from Koch in the description of the *bacillus tuberculosis*. If the last mentioned be the true, specific contagium, our task is much simplified. The organism producing tuberculosis being defined, there is no longer any doubt how this disease may be propagated. Just as a certain culture soil is necessary for the growth of the bacillus, so a state of the human organism is necessary to the successful propagation of tuberculous matter.

Whether the existence of a bacillus tuberculosis be admitted or not, it is clear that, from the clinical standpoint, a contagious principle is rendered probable by numerous apparent cases of transmission. Amongst others Dr. Webb, of this city, has reported several examples of the supposed communication of consumption. M. Leudet has studied this question in fifty-six households belonging to the better classes. Thus in fifteen examples the husband was tuberculous and the wife healthy at the time of marriage, and for some time afterwards, and in forty-one the female only was thus affected.

In the first series, five of the wives were attacked subsequently with tuberculosis, one had Pott's disease followed in six years by phthisis; one had a sister, and another an aunt fall victims to consumption. In the second series of forty-one, three of the husbands became tuberculous. These results, says Leudet, correspond closely to the observation which has heretofore been made, that the effect of contagion is more often exerted from the husband to the wife, than from the wife to the husband. Many other facts of the same kind have been reported, but we need not occupy time and space with them, since they conduct us to the same conclusion. Thus it happens that experimental study unites with clinical experience in rendering the existence of a contagious *materies morbi* in a high degree probable.

The specific infective quality of tubercle being thus rendered probable, it remains to indicate in what way the human race may be rid of a communicable scourge so destructive in its character. This is the subject of a paper by Prof. Corradi, of Pavia, read before the International Congress of Hygiene, assembled at Geneva in September of this year. He proposes to prevent the cohabitation of the phthisical; to abstain from food derived from phthisical sources, including milk; to avoid the use of vaccinia from phthisical heifers and infants, and to institute special hospitals for the isolation and treatment of phthisical cases.

The most superficial consideration of these prophylactic measures to prevent the extension of tuberculosis, must convince any inhabitant of a free country that they are impracticable. In those countries possessed of a paternal government, in which all the transactions of life are minutely regulated, it may be possible to prevent the contact of phthisical subjects; but surely, in this country, such absolute hygienic regulations, are entirely inapplicable. With us, there is no other dependence for the extinction of tuberculosis, than the law of evolution. Relying on the operation of natural laws, and recognizing the survival of the fittest as the great fact of development, we may await the progress of natural forces since human agency cannot be successfully applied to the amelioration of our condition—to the relief of the human race from this odious scourge.

Whilst we may not invoke a sufficient legislation to prevent the spread of phthisis, we may, by precept and example, induce the population of our time from entering into unscientific, unhygienic relations which may result in lasting injury to the human race. The only comfort which any humanitarian

can extract from the present complicated situation is that by the laws of evolution those families must become extinct whose ancestors were the subjects of constitutional diseases by inheritance.

THE LIMITS OF MEDICAL ETHICS.

"License they mean when they cry liberty."—MILTON.

IN the October number of the *New York Medical Journal* Dr. C. R. Agnew, of the committee that framed the new Code, under the above caption, and with a pleasing quotation from Addison as a subheading, to the effect that "Where liberty is gone, life grows insipid," etc., makes an attack upon what he terms the "sumptuary, proscriptive, and trades-union laws and regulations" of our profession; or, in other words, upon its Code of Ethics.

It is well that in this extraordinary production the author has included a little autobiography, as surely no one would on *a priori* grounds have attributed his article to a teacher of twenty-five years' standing, a trustee of a university, an ex-Surgeon-General of the State of New York, and a "thoroughly conservative, old-school doctor;" by all of which titles he describes himself. Neither, we may add, would it have been suspected that he was one of the orginal corporators of the Society for the Suppression of Vice.

Of course the old questions are considered, but no new light— certainly no true light—is thrown on them. Indeed, to the average mind, they would seem to be somewhat obscured by irrelevant simile and illogical argument. How, for instance, does it affect the generally received belief that a consultation between a regular physician and a quack lowers the former, strengthens the latter, does not benefit the patient, and is positively injurious to the community by encouraging charlatanry, to ask what good could come from a law forbidding engineers or astronomers to consult with mechanical or mathmatical heretics? If advocates of impossible motors or believers in the motion of the sun professed to apply their views to the healing of disease, or to be governed by them in accepting the responsibility of human life, there would be every reason for sternly and rigidly discountenancing them. Until they do that there is not even a distant resemblance between the cases.

It hardly solves the entire question as to the uselessness or harmfulness of consultations with charlatans to say that "it is for the scientific and conscientious consultant to compose all differences of diagnosis and treatment in the interests of the sufferer." It sounds well, but is somewhat vague. After careful study we confess to not knowing exactly what it means, unless an astounding proposition in another part of the article be taken as explanatory. It is there stated that when a patient in the hands of an "ignorant pretender, under whatever trade-mark, calls in consultation a competent practitioner," the latter may, under the new Code, respond to his call. If then, after "a fair discussion of the case"!!! the sick person does not dismiss the quack and retain the competent practitioner, the latter may consider himself relieved of responsibility, although he still pockets the fee. This is possibly the "composing" process above alluded to, but one in which surely no gentleman would care to be concerned. More particulars are evidently needed, especially as to the "fair discussion" which is to determine the further attendance on the patient. Is the latter to hear both arguments and decide judicially, as the final arbiter, or is he to be interrogated at the lancet-point and made to respond under penalty of being deserted by both parties? "Under which king, Bezonian? Speak, or die!" Or can it be that the Ignorant Pretender is to be overcome by the combined power of science and conscience, and is to abdicate?

The advocates of the new Code seem to be under the impression that it is an argument in favor of abolishing the old Code to say that the evils which it is intended to suppress are of considerable magnitude under its sway, but the fallacy of this position is self-evident. The same line of argument would lead to the cessation of vaccination on account of an epidemic of smallpox, or the abolition of quarantine because yellow fever occasionally made its appearance. They return to the old proposition in favor of leaving all ethical questions to the decision of the individual, and ask if the latter is not able morally to decide between right and wrong, to say whom he will or will not meet, "how is the moral capacity acquired to make the decision wisely by the aggregation of a number of individuals, every one of whom is supposed to be individually incapable?" There is a flaw here, however, in the major premise. No one supposes, or, so far as we know, has ever asserted until now, that any such incapacity for proper discrimination existed in the profession. Such arguments rest on the grossly unwarranted assumption that ethical rules are made for the government only of persons unfit to govern themselves. We have already had occasion to point out that ethics and morality are practically synonymous. Is it, or does any sane person suppose it to be, an argument against the general canons of morality that they are framed into laws for the control and the welfare of society by persons, some of whom *do*, and any of whom *may*, transgress them?

We have no space to devote to refutation of such puerilities, but would like in concluding to call attention to two statements which hardly seem consistent with the self-assumed character of a "thoroughly conservative, old-school doctor."

Dr. Agnew says distinctly and without qualification that whereas, under the new Code the primary object of the physician is to be the good of the sick, "under the old Code the primary object came to be the 'dignity of the profession,' and an inquisitorial scrutiny of one's professional rivals." In other words, we are just now to begin, under the guidance of the new Code, of course, to try to help suffering humanity, to alleviate distress, and to combat disease, after untold years of misbehavior in which these objects were neglected or subordinated to petty and personal jealousies. Imagine the effect of this outrageously false statement upon the lay mind—coming as it does from so prominent a source.

Finally, and we mention it as an illustration of the logical and inevitable lowering of professional dignity involved in an acceptance of the new Code, he digresses to approve of Senator Cameron's joint resolution throwing open the governmental service to all so-called "doctors;" stating that the resolution of that dignitary "does not provide for the recognition of 'irregulars,' but of men with legal diplomas." That is to say, he does not consider any herbalist, clairvoyant, eclectic, mesmerist, or homœopath an "irregular" if he be provided with a recognized certificate of his right to practice. This is, of course, equivalent to abolishing altogether the term which has come to mean a practitioner of medicine who displays his ignorance or dishonesty by adopting some special insignia or trade-mark, or who transgresses in some other manner the laws of professional honor and decency. The word cannot, as we have said, be consistently employed by the supporters of the new Code, and Dr. Agnew shows his appreciation of that fact by repudiating it as applied to the subjects of Mr. Cameron's resolution. We prefer, for ourselves, to retain it as well expressing the broad distinction between respectable physicians and the class above described. Fortunately, there is no danger that either the word or the difference which it indicates will be forgotten by the profession at large, however they may be ignored by the advocates of the new Code.

CAFFEINE IN CARDIAC AFFECTIONS.

NOTWITHSTANDING the remarkable value of digitalis in the treatment of various cardiac diseases, there are conditions in which it may be indicated, but yet is not available owing to peculiarities of its action. The discovery of other remedies, having similar effects, but free from its objectionable features, becomes, then, very desirable. Amongst the new contributions to our resources in cardiac therapeutics, are nitro-glycerine and convallaria. Caffeine which has long been known as a cardiac stimulant and diuretic, has begun to assume new importance since its special powers as a cardiac remedy come to be better understood. In a recent number of the *Bull. Gén. de Thérap.*, Dr. Heuchard has a paper in which caffeine is contrasted with digitalis, and the applications of the former are mapped out with precision. It may be useful to some of our readers, to learn the capabilities of caffeine as a cardiac remedy, and to compare the observations of Heuchard with those of other observers, notably of Steward.

As is the case, so generally, the action of caffeine in small and large doses varies, and the secondary is different from the primary action. In the first phase of its effects, or administered in small doses, it stimulates the action of the heart and raises the arterial tension. When considerable doses are given the stimulant effect is of brief duration, and is soon followed by a fall in the number of the heart-beats, and in the tension of the arterial system, which is the second phase of its action. Caffeine augments the flow of urine. Its action is brief, owing to the rapidity with which it is eliminated, and it has no toxic effect properly speaking.

In some cases the diuretic action of caffeine is preferable to that of digitalis; although not so considerable, the diuresis occurs more promptly, and it may, therefore, be employed when a prompt effect is essential. Caffeine has the advantage that it is by no means so irritating to the stomach, and can be used in such diseases, as cirrhosis, for example, when digitalis could not be borne. In cases of cardiac diseases, where the muscular wall of the heart is affected with fatty degeneration, and in which digitalis is so dangerous, caffeine may be used without risk and often with decided benefit. Of course, it cannot take the place of digitalis in the valvular affections with dropsy, in which this remedy is so efficient.

Dr. Heuchard maintains that caffeine must be given in large doses, if the desired effects are to be procured. Beginning with four to eight grains, he rapidly increases the dose to ten, to sixteen, even up to thirty grains three or four times a day to maintain a constant effect.

DEATH-CERTIFICATES AND BURIAL IN CASES OF STILLBIRTH.

A CASE which has excited some attention from the lay-press has recently occurred in Philadelphia, and brings up one or two interesting points in relation to the giving of death-certificates. The facts are briefly as follows: Dr. Bell, a physician to a poor-district, was called on a Monday afternoon to visit a woman in labor; having at the time other pressing cases of the same sort, he placed her in charge of a medical student belonging to a class who were taking instruction in practical ob-

stetrics. This gentleman saw the patient at four o'clock, remained with her until five, and came again at about seven, to find that in the interval a dead child had been born. He severed it from the placenta, placed it in a box, and directed the father to bury it in the yard. The following day the parents asked him for a death-certificate, and were referred to Dr. Bell, who, not having seen the student, declined to give it, and sent them to Dr. Elliott Richardson, the instructor in charge of the class to which the student belonged, who immediately wrote, asking for particulars, but heard nothing further from any person. Dr. Bell and he each supposed that the other had attended to the matter, no certificate was given, and finally, a partially correct version of the affair was published in one of the daily papers.

We give these details partly to place the facts before the profession, who are always interested in such matters, and partly to call attention to the proper procedure in such cases.

In many parts of our country, and in some of the rural districts in this State, death-certificates in such cases are not required by law or custom, and stillborn children or the products of premature labors are often disposed of as was suggested in this instance.

In Philadelphia, such cases come under the general laws relating to births and burials, no mention of stillbirths being made in the city ordinances, as far as we can discover. The custom is, we believe, to dispose of the product of conception in any decent and inoffensive manner and without formality if it has not reached an age when it could by any possibility have survived. After the period of viability, which may be said to be from five to six months, it, of course, becomes important to know whether the child was born alive or dead, and a certificate from the attending physician or, in case of his neglect or refusal to attend to it, from the health officer is required. Suspicious circumstances properly sworn to would very properly throw any case into the hands of the coroner. In the instance we have just mentioned the accidental character of the complication was so evident that the case was promptly dismissed by the coroner's jury.

RESECTION OF THE PYLORUS.

THE surgeon of to-day should not be accused of timidity or of too great conservatism. It is scarcely three years since the first resection of the pylorus was done, and yet, in spite of the comparative rarity of cases suitable and willing for such an operation, CECCHERELLI has collected in *Lo Sperimentale* for August, 23 cases, to which at least Hahn's second case must be added. Of the 24, nine recovered from the operation. What the ultimate results were is quite another question. Billroth leads in number though not in time with four cases; Czerny, Rydygier, and Hahn have each done it twice; as we said lately, however, in the matter of extirpation of the larynx for cancer, so as to resection of the pylorus, we do not believe that it will ever take its place as a recognized and justifiable surgical procedure, save in very exceptionable conditions. Until we can hope for a permanent cure of the carcinoma, the operation is so painful and so dangerous that a conscientious surgeon can scarcely recommend it. With resection of the intestine it is quite different, since the diseases which call for its resection are so entirely different. A brilliant example of this is seen in the case of double and successful resection of the intestine reported by Rydygier in the *Berliner klinische Wochenschrift* for Sept. 18th last.

THE recent terrible accident in Fairmount Park, by which nearly a score of persons were killed and wounded by the premature explosion of fireworks, has called attention anew to the dangers of such amusements. Of course no possible pleasure can weigh against such a dreadful calamity. The Mayor of Philadelphia, we see, has declared that no such exhibitions shall be allowed hereafter. If fireworks involve such dangers, they must be given up. For places fortunately provided with a river, as Philadelphia is in the Schuylkill, we have a suggestion which we think will allow of the pleasure and yet prevent the danger. Moor some canal-boats in the middle of the river and plank them over as a platform for the fireworks. Then police the river by a few tug-boats to keep spectators at a proper distance. The fireworks can be better seen, since neither trees, hills, nor other obstacles will be in the way; they can be seen to advantage by a greater number of people, for those on both sides of the river can see them; and none but the few engaged in displaying them will be exposed to any danger; and the caution born of experience will enable them to escape.

So many patients use the telegraph and so many doctors make appointments by telegraph that its reliability and speed become a matter of no little moment. Of late, however, it has become most unreliable and vexatious. Again and again have we found two hours to elapse between the dispatch and the reception of a city message; and as to messages to the suburbs, it is not uncommon for a doctor to *drive* out there and find that he has arrived long before his message. The actual loss from failures to make and keep appointments is considerable, and the evil should be remedied. The best way to do so is to make official complaint to the company in every

instance and to demand at least the return of the cost of the message. We have known this to be done in several instances, and its frequent recurrence will cause reform. Corporations keep both their consciences and their cash in their pockets.

Can a person be tried as an abortionist in consequence of an attempt to produce an abortion on a woman who was not even pregnant? Such is a question lately mooted in Chicago. The girl died of metro-peritonitis as a result of the manipulation; but the autopsy showed that the supposed pregnancy never existed.

REVIEWS.

A System of Surgery, Pathological, Diagnostic, Therapeutic, and Operative. By Samuel D. Gross, M.D., LL.D. Cantab, D.C.L. Oxon, Emeritus Professor of Surgery in the Jefferson Medical College. Illustrated by upwards of 1600 engravings. Sixth edition, thoroughly revised and greatly improved. In two volumes. 8vo. pp. xxxii. 1194, and xxxii. 1174. Philadelphia: H. C. Lea's Son & Co., 1882.

Who does not know "Gross's Surgery?" And who that knows it, does not trust and consult it? And who that knows its author, does not love and revere him?

This book, like all other human work, has of course its defects and its errors; but nevertheless it is monumental. A sixth edition so thoroughly revised, and so fully brought up to date, is both a delight and a surprise. Its author is a man well advanced in years, and has been a distinguished teacher for over half a century. Yet just as he lays down the crown of the teacher he takes up anew the sceptre of the author, and labors day and night in perfecting a work already great, which now fully reflects the wonderful growth of surgical science in the decade since its last revision.

The new edition is a surprise not only by the amount of labor involved in its preparation, but also by the readiness with which its learned author has accepted new views. The conservatism of age has kept him from attractive but unproven theories, but it has not hindered his change of opinion with the advance of knowledge or the welcome due to the later views in pathology and in therapeutics. Moreover, he has had the wisdom to recognize the value of specialism in medicine, and to avail himself of the pens of several able assistants. Thus Cohen has revised the chapter on the respiratory organs, Harlan that on the eye, Burnett that on the ear, in addition to the aid in other parts from Thomson, Seguin, Battey, L. H. Sayre, and Dunglison, while the book shows on many a page the skilful and able hand of Prof. Samuel W. Gross, the worthy successor of his father in the professorial chair at Jefferson Medical College.

The work is worthy of its distinguished author, and is a monument to his learning, his industry, and his skill. Long may it be his privilege to reap its fruits and enjoy the honor of his labor.

The Physician's Visiting List for 1883. Philadelphia: P. Blakiston, Son & Co.

For over thirty years, this extremely useful book has been an annual visitor. Steadily, too, it has grown better, until now it can scarcely be improved upon. Two sizes are made, for twenty-five and fifty patients respectively. Besides the daily visiting list, there are an almanac, a description of Marshall Hall's ready method in asphyxia, tables of poisons and their antidotes, weights and measures—including the metric—a posological table, with blanks for the addresses of nurses, obstetric engagements, accounts, etc. We welcome its familiar face, and only suggest that, since Silvester's method of resuscitation in asphyxia is better than Hall's, as we showed in our issue of August 12, it should replace the latter.

A Treatise on the Physiological and Therapeutical Action of the Sulphate of Quinine. By Otis Frederick Manson, M.D., Professor of Physiology and Pathology in the Medical College of Virginia. Pp. 64. Philadelphia: J. B. Lippincott & Co., 1882.

We are quite unable to discern the motive for the publication of this monograph. The modern researches which have thrown light on the action of quinia, are simply ignored. The writer seems to have no acquaintance with the literature of a more recent date than the treatise of Giacomini on Materia Medica and the monograph of Briquet on quinia and its preparations. It seems idle to be engaged in the vamping-up of old works, when modern works, which contribute something towards the solution of the problem, are right at our hand. So far as he has gone, well enough; but Dr. Manson should have withheld this effort from publication until he had extended his researches into the contributions of modern therapeutists. If he had done so, his treatise would have contained matters of the greatest moment to the profession. As it stands, we do not see that the real ability of the author has found a proper scope for development.

The Vest-pocket Anatomist (founded upon "Gray"). By C. Henri Leonard, A.M., M.D. 12mo. pp. 82. Detroit: 1882.

Though "founded on 'Gray,'" as upon a rock, we trust that this book may suffer the destruction of the house of unstable foundation. So far as we can see, there is but one good thing about it: the author—no, we mean the compiler—justifies his A.M. by a correct Latinity, even down to anconéus, corrugátor, and masséter, though he comes to grief on the "nervus pudica."

It is from beginning to end simply an advertising affair. The compiler gives his titles in full, from Professor of this and that, down to his membership in a no doubt justly celebrated County Medical Society, but whose fame, we regret to say, never before had reached our ears. What terrible titles then must be hidden under the final "etc!" The preface tells of the "surprise and pardonable pride of the author"—for such by courtesy he calls himself—in the rapid sale of the book. On the opposite page are advertised five other "works"—Heaven save the mark!—by the same "author;" namely, one on the Hair, a Reference and Dose Book, a Manual of Bandaging, a Day Book, and a Ledger! At the end of the book, the same now familiar friends appear, together with Dr. Leonard's vaginal speculum and Dr. Leonard's utero-metric sound. Of course, being a professor of gynecology, he must invent a new sound and a new speculum. But the crowning glory is still wanting. Let him invent—and advertise—a new *forceps*, by C. Henri Leonard, A.M., M.D. The world waits for it.

The book is a worthless rehash of the simplest facts of anatomy—one of that miserable class of books for cramming, that we only notice to condemn, along with the advertising methods of its "author."

SOCIETY PROCEEDINGS.

THE AMERICAN ACADEMY OF MEDICINE.

Seventh Annual Session, held in Philadelphia, October 26 and 27, 1882.

(Specially reported for THE MEDICAL NEWS.)

THE seventh annual meeting of the American Academy of Medicine was held in Philadelphia, at the hall of the College of Physicians, on Thursday and Friday, October 26 and 27, 1882, DR. TRAILL GREEN, of Easton, Pennsylvania, President, in the chair.

After the reading of the minutes, the names of about fifty applicants for membership were read by the Secretary, as having been approved by the Council. All of these gentlemen were then elected as Fellows of the Academy. It may be stated that the Fellows are selected from those only who have received the degree of A.B. or A.M. in regular course, in addition to that of M.D., and that the chief purpose of the Academy is an improvement in the preliminary education of those who are about to enter upon the study of medicine.

An amendment to the constitution, proposed at the last meeting, limiting the number of vice-presidents to two, instead of four, was rejected.

The Secretary read a short paper by Dr. ELISHA HARRIS, of Albany, New York, on

THE PUBLIC HEALTH SERVICE IN ITS RELATIONS TO THOROUGH PREPARATION OF THE PHYSICIAN.

He urged that the experience of numerous communities is continually demonstrating that the majority of practising physicians have so failed to prepare and outfit themselves in the natural sciences, in habits of accurate and studious observations and medical logic, and in mastering the stores of knowledge, that they are not adequately educated for the highest duties of public sanitary service. The time and cost of the disciplinary course of study which the writer considered so desirable, are never a waste, and the acquisition of science and of the essential habits of scientific study will become the wealth which the sanitary counsellor and health officers most need.

The deaths of three Fellows of the Academy were alluded to by Dr. C. C. Bombaugh, of Baltimore, Md., after which the Secretary read a semi-biographical minute of the professional services of Drs. H. Lenox Hodge, of Philadelphia, James M. Shearer, of Dillsburg, Pa., and William H. Allen, of Philadelphia, the deceased fellows referred to.

DR. BENJAMIN LEE, of Philadelphia, then read a paper on

THE ADVANTAGES OF A LIBERAL EDUCATION PRELIMINARY TO THE STUDY OF MEDICINE, AS ILLUSTRATED IN THE EARLY HISTORY OF MEDICINE IN THE COMMONWEALTH OF PENNSYLVANIA.

The objects of the paper were, first, to claim for Pennsylvania that meed of praise which is her due as the mother of medical science in this country; and, secondly, to show that she owes this proud position in history to the fact that so many of her early physicians were men of liberal education and elegant scholarship, the majority of those whose names have come down to us as worthy of remembrance having taken the degree of Artium Baccalaureus before they entered upon the study of their profession. The physicians of Philadelphia, in the middle of the last century, were not men of limited education or scanty intelligence. On the contrary, there are few of us at the present day who would care to institute a comparison between the more prominent of them and ourselves, as to classical culture, general knowledge, elegance and polish of manner, habits of thought and observation, and in certain branches even as to professional attainments. The paper was full of interesting historical and personal reminiscences of the medical men who flourished in the days when the little city on the banks of the Delaware had only fifteen or twenty thousand inhabitants. It was true then, it is true now, said the writer, that while the physician who has enjoyed no early advantages in the way of a finished education, and has taken no pains to remedy this deficiency later in life, may be a successful physician and acquire a lucrative practice; he rarely becomes a leader of medical opinion, a founder of schools, a reformer of error, an ornament to his profession.

DR. H. O. MARCY, of Boston, Massachusetts, then read a paper on the

ANTISEPTIC TREATMENT OF OPERATION WOUNDS,

in which he discussed, in an exhaustive manner, the general principles involved. After a general review of the antiseptics used at the present day, he gave a statement of numerous experiments carefully made by himself, with carbolic acid, chloride of zinc, thymol, boracic acid, salicylic acid, etc. He found that carbolic acid still stands at the head of the list of antiseptics. Next comes thymol; but boracic acid he found much inferior to the rest in antiseptic virtues.

DR. LEWIS H. STEINER, of Frederick City, Maryland, read

A REPLY TO A RECENT CRITICISM OF A COLLEGE PROFESSOR UPON THE OBJECTS OF THE ACADEMY,

in which the latter had contended that a college education rather unfits a person for the practice of medicine. The writer of the reply showed conclusively that such was not the case, and urged in the most strenuous manner the great need of good preliminary education to those entering upon the study and practice of medicine.

DR. GEORGE M. BEARD, of New York, then read in abstract a very elaborate paper on

THE MEDICAL PROFESSION, AND MEDICAL EDUCATION IN EUROPE.

The general conclusions reached by the writer, after considerable personal study abroad, may be formulated in three propositions: 1st. The best system of education in Europe, including both preliminary and medical, is found in Germany. The German physicians are the best educated in the world, both in general and special training. 2d. Next to Germany comes France, where as in Germany it is impossible to get a medical degree without a more or less thorough preliminary education. 3d. In Great Britain less preliminary education is required for medical students than in any other of the great nations.

The special defects in the English system are, in addition to the deficient preliminary education, 1st. Too little instruction; 2d. Too much examination. It is estimated that only a small per cent. of the English physicians are graduates of Oxford and Cambridge. If a student must economize in time or means, let it be in the professional and not in the academical training; lengthened terms of medical study will not alone very greatly raise the character of our profession. No amount of medical education can make up for deficient general education, and no examinations, however severe, can take the place of instruction. Medical books, especially recent cyclopedias and monographs that are not needed by medical students, have a much smaller sale and are less generally read than in America. Ziemssen's cyclopedia, which in this country sold by thousands, was purchased in England only by a few hundreds. German and French mono-

graphs have comparatively a limited circulation in England as compared with this. Outside of a small circle of German-taught experts the medical literature and the medical practice of England is from five to fifteen years behind Germany and America.

The *Staats examen*, or State examination, is one of the glories of Germany; it is by a central and independent body whose members are not members of the faculties through whom the candidates acquire their education; and whose chief temptation is to be just.

The Germans are thinkers, philosophers, men of abstract ideas with inherited genius for theory and for language. In Germany nothing counts but originality; a man must say something or do something different from what has been said or done before. Germany is a great medical centre, because it is a great thought centre.

The defects of Germany are mainly on the side of practical application of science and philosophy to daily wants in medicine, the special great defect is in the treatment of disease; the German are non-therapeutists. The social status of the profession in Europe is a reflex and reward of education and character. The profession as a profession has slight honor; the position of its individual members comes from individual characters despite the calling.

The practical applications in this country are these: Encourage young men about to study medicine to acquire university education in the very best of our universities.

Encourage young men to study and travel in Germany.

Encourage young men to do original creative pioneering, both in medical philosophy and medical experiment.

Within two decades America has pushed forward largely under German inspiration and encouragement at least a century.

EVENING SESSION.

The Academy reassembled in the evening, to hear the

ADDRESS OF THE PRESIDENT, DR. TRAILL GREEN.

He alluded to the progress ef sentiment in favor of an improved preliminary education since the foundation of the Academy, and to the views of many honored teachers in the profession, whose experience in the schools, as well as in private practice, qualified them to judge of the wants of those who were asking admission to the profession, such as Drs. John W. Francis, N. Chapman, Alexander Sterns, Jacob Bigelow, Oliver Wendell Holmes, N. S. Davis, J. R. Wood. W. K. Bowling, S. D. Gross, and many others. From year to year the American Academy of Medicine has made constant advances, and distinguished practitioners and eminent teachers continue to enroll themselves in the annually increasing list of the Fellows. He cited, as a point accomplished through the influence of the Academy, the law of the State Medical Society of Pennsylvania, passed in 1878, demanding that students of its members should be examined by boards of medical examiners, appointed by county medical societies, as to educational qualifications, before entering upon their medical studies; and in 1880 the Society enforced the law by refusing representation from county societies which did not comply with the law. Prof. Tyson's address, delivered in 1882, he quoted, in which he urges that "the finished physician shall not only be thoroughly trained in all that pertains to our profession, but he shall also possess a university education or its equivalent." In 1876, the year of the organization of the Academy, Harvard was the only school in this country which required a preliminary examination of intending medical students; now there are thirteen colleges which require the diploma of a literary institution or a preliminary examination, and three schools require a preliminary examination, The speaker thought that this exhibited great progress in six years. He thought that the colleges which demand such examination will have public sentiment to sustain them. May it be our purpose, he said in conclusion, to so impress the minds of young men who are looking to the medical profession as the field of their labor that their experience may be that of cultured scholars and skilful physicians, whose lives may be useful and adorned by the liberal culture to which we invite them.

SECOND DAY, OCTOBER 27TH.

The Academy met at 10 o'clock, and, after hearing the Treasurer's report, the report of the Nominating Committee, appointed on the previous day, was presented, and the following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—DR. H. O. MARCY, of Boston, Massachusetts.

Vice-Presidents.—DRS. GEORGE M. BEARD, of New York; WM. ELMER, of Bridgeton, New Jersey; CORNELIUS R. AGNEW, of New York; and THOMAS M. DRYSDALE, of Philadelphia.

Secretary and Treasurer.—DR. RICHARD J. DUNGLISON, of Philadelphia.

Assistant Secretary.—DR. CHAS. MCINTIRE, JR., of Easton, Pennsylvania.

The next meeting is to be held in New York, in September, 1883.

After the election of several additional Fellows, the Secretary read letters received from the attending and consulting surgeons of the late President Garfield, received in response to the resolutions of sympathy and respect passed at the last annual meeting of the Academy.

On motion of DR. STEINER, the Secretary was authorized to make arrangements hereafter for a collation at each meeting, after the delivery of the annual address of the President, for such of the Fellows as may notify him of their desire to join in the same, the expense *per capita* not to exceed two dollars.

DRS. HENRY FRAZER CAMPBELL, of Augusta, Georgia, and AUSTIN FLINT, SR., were then elected *honorary members* of the Academy.

The Secretary read a paper by DR. NATHAN ALLEN, of Lowell, Massachusetts, upon

THE INFLUENCE OF MEDICAL MEN,

in which he discussed the various channels of usefulness in which the educated physician could make himself useful in improving the moral, physical, and sanitary conditions of the community.

Dr. Dunglison, who had been appointed in 1880, with Dr. Marcy, of Boston, a committee to report on

THE LAWS OF MEDICAL PRACTICE IN THE UNITED STATES AND CANADA,

Presented the Annual Report, exhibiting the progress which had been made during the last twelve months in this form of legislation, showing the modifications in some States, the defects in others, and the general advance made in this direction in the various States of the Union since their previous report. The Committee had obtained official copies of almost all the Acts of medical interest now in operation in the various States, and in the Dominion. So far as their knowledge extended, laws of many and different degrees of force and efficiency are now existent in twenty-two States, and two territories, and in all the Provinces of Canada, having for their object the regulation of the practice of medicine. The States and Territories referred to are

New Hampshire, Connecticut, New York, New Jersey, Pennsylvania, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Texas, Arkansas, Illinois, Missouri, Colorado, Wisconsin, Kentucky, Nebraska, California, and Washington and Wyoming Territories.

DR. MCINTIRE then read an excellent paper on

THE RELATIONS OF THE ACADEMY TO THE PROFESSION.

The writer first inquired into the exact condition of the medical profession as at present constituted, having obtained data for the classification of physicians upon an educational basis, from statistics collected from county and other medical societies in Pennsylvania and New Jersey, from a large number of college catalogues, etc., the object of the writer being to show that a very small percentage of college graduates become physicians, and that a very large majority of medical men have never received any college training. The paper, which was elaborate and carefully written, teemed with interesting statistics, the publication of which would be essential to an intelligent appreciation of the merits of the paper. The writer dwelt in conclusion upon the high mission of the Academy, and suggested means by which its usefulness might be extended.

After a vote of thanks to the College of Physicians for the use of their Hall, and to the fellows resident in Philadelphia for a collation tendered the visiting fellows at the Colonnade Hotel, on the previous evening, the President-elect, Dr. H. O. Marcy, was inducted into office. After eloquent remarks by the latter, and by the retiring President, and the appointment of Dr. Benjamin Lee, of Philadelphia, and Dr. L. D. Bulkley, of New York, as additional members of Council, the Academy adjourned.

CORRESPONDENCE.

A FEW WORDS ON THE ESTABLISHMENT OF VETERINARY SCHOOLS IN THE UNITED STATES.

To the Editor of THE MEDICAL NEWS.

SIR: The caustic and true remarks, in your editorial of the issue of September 30, under the heading of "The Medical School Scandal," so fully coincide with those I have repeatedly published with reference to the establishment of veterinary schools in this country, that I feel emboldened to trespass upon your indulgence with a few remarks.

The general public, and I am very sorry to say, also, many members of the medical profession as well, scarcely realize, to its full extent, the value of veterinary science to a country, especially from the economical and hygienic standpoints. The veterinarian is generally looked upon as part of the adjuncts of the stable or kennel; and any attempt on his part to show he has duties of a more elevated character are looked upon as the dreams of a visionary enthusiast. These *dreamers*, however, find sufficient evidence to support their assertions in the testimony which is given by the gradual decrease of the losses occasioned by annual pests on the continent of Europe in comparison with those of the last and previous centuries, when gods or devils were supposed to instigate them as tortures for humanity, who fled to the impotent priests of the day for relief, instead of to scientific study of the causes and nature of these devastations.

But aside from the study and treatment of animal disease *per se*, the educated veterinarian is destined to play a still more important part in the world's progress, a sphere in which he stands, or may stand, in every way on a plane with the most advanced mediciners; this field is that of public hygiene, and the veterinarian's special branch is, *the relation of animal diseases, or the products from diseased animals, to the health of humanity*. One need but allude here to market and slaughter-house inspection, to the contagious diseases transmissible to man; to trichinosis, tuberculosis, and last, but not least, to the inspection of dairy stock, by which the consumer may be assured that the cow giving the milk is healthy, as well as that the milk is not adulterated after being taken from the cow. Our milk inspection, as at present carried out, begins at the wrong end of the route; we examine the water at the faucets of delivery, but entirely neglect the fountains, or sources, from whence it springs. That the time has come when certain authorities, communities, or individuals, are beginning to appreciate the demand for a greater number of veterinarians is made evident by the success of certain private (speculative) institutions for the education of students, and that several of our universities are taking steps in that direction.

Your remarks, above alluded to, bear especial relation to the case in point, and should by no means be lightly passed over by those entering upon this path of education. It will not be over fifty, and perhaps not twenty-five years, before this country will be as completely overrun with irresponsible, speculative veterinary schools, displaying the disgusting and degrading phenomena of hunts after students, cheap diplomas, general rivalry, etc., which now exists, and so disgraces what may be called the medical institutions of the United States, though of course there are, and ever will be, exceptions to this rule. One thing must not be forgotten, the demands of the public for veterinarians will never be as great as for mediciners.

From what has been done so far, and is at present contemplated, it would seem as if we were bound to utterly ignore the teachings which may be drawn from countries where veterinary schools have existed for a century or more.

If we follow any example, it is that of England, which is only to be at once condemned, the schools being private affairs, utterly without responsibility, until the profession took its protection into its own hands by the formation of the Royal College of Veterinary Surgeons, which is acknowledged by the Government (only within a few years), and now constitutes the examining and diploma-granting body. Even this we can scarcely ever expect to arrive at in this country.

With reference to these British schools it should never be forgotten, that neither of them have ever produced any scientific contributions to veterinary literature, and that all that can be said of them is that they are and have been successful in producing good routine practitioners.

The case is far different with the continental schools: the work of their teachers forming the foundation upon which our veterinary literature at present stands. In this regard one need but mention the names of Gerlach, Bouley, Channeux, Toussaint, Erculasic, and others; men who have not been without their contributions of value to general medicine.

The English schools are, in reality, nothing more or less than speculative affairs, the benefits going to the teachers and the subscribers, who, for a certain sum per year can have the benefits of the school hospital. There is no very good feeling existing between the profession in the cities where these schools are, especially London, and the faculty, the schools frequently doing a "cutting" business with regard to fees.

Again we see it proposed to have one or two technical teachers attached to the faculty of our medical schools, *vide* Harvard. Fully aware that this is but a beginning,

we nevertheless feel that it is a mistaken one, not only with reference to Harvard, but more to the advancement of the profession. It is absolutely impossible for the teachers of human medicine to properly adapt themselves to veterinary medicine; and again, it can only lead to production of routiners in medicine. Virchow would speak of such teachers as "Mädchen für alle," servants for general housework. The question is what do we want to produce, routine practitioners or scientifically educated men?

So far as the country goes, so far as any appreciation of medical science *per se*, either for the young mediciner or veterinarian, I mean ability for original research as understood in Europe, any American might as well blow his brains out at once and throw his money into the fire; there is at present no place for him in the United States, unless he has money enough to establish a private laboratory, work for his own pleasure, and publish his work in Europe. His profession would pat him on the back and speak of him as a good fellow, but a fool; "better make money," the ultimum of American success. The people in general would call in the first quack in preference, in consequence of his "great practical experience" (in gulling people out of their money).

Unfortunately my ambition for both human and veterinary medicine is on a higher plane. What we want is more of the true scientific spirit in our schools and permeating the profession. If not in the faculty, it will never be in the profession, and it will never be in the profession with the schools as they are. The chartering of private, utterly irresponsible schools for medical education in any branch cannot be too strongly condemned. Even should the different States establish State schools, funded and controlled by their respective authorities, we should be so overflowed with practitioners, as human medicine now is, and there would be as great an inequality in the quantity and quality of education given or demanded of graduates as now exists in human medicine, and a graduate's diploma as worthless until we knew from which school he came.

If it were conducive to the best interests of a country to have one or two technical teachers attached to medical schools, for the advancement of veterinary science, we should not see the great powers of Europe supporting entirely separate institutions at great expense. The Berlin schools cost more than $20,000 per year above receipts, with large faculties. Berlin has 13 professors and a large number of assistants, and is erecting institutes for the study of special branches; the new pathological institute at Berlin is to cost $50,000; at least such is the appropriation. It is from the work done at these schools that we have learned how to control animal pests, and the nature of most of the diseases of our animals.

When we come to ask how is it that such work has only been done at continental schools? we find the simple answer, that they are government schools, supported and controlled by their respective governments. We find, unquestionably, that most of the students graduated simply became practitioners, but still the scientific spirit is instilled into them, and if real genius for original work comes in but one out of a thousand, still that one finds support and encouragement from his colleagues, and becomes a useful servant to the State.

Notwithstanding the present rottenness of our Government and the manifold injurious influence of American politics, it would be better for the country could this new movement die while in its embryo condition, and be substituted by one or two large schools supported by the government. We should then have one standard of education and the rivalry of schools, which will never be healthy, scientific, but for students, would cease, and we should not have what now exists in human medicine in our different cities, antagonistic cliques, or societies, composed of the graduates of different schools, each having more or less bitterness towards the other. This condition even exists among veterinarians to-day. If the medical profession is really alive to its own future progress, it will use its influence to keep our new branch of study from following its own bad example.

Respectfully, yours,

F. S. BILLINGS.

BOSTON, October 28, 1882.

A CASE OF RUPTURE OF THE LONG HEAD OF THE BICEPS.

To the Editor of THE MEDICAL NEWS.

SIR: Early in July a German æt. 57, of strong frame and sanguine temperament, a photographer by trade, came to me complaining of great pain and soreness in the region of the shoulder. An examination revealed the following deformity. The right biceps muscle was displaced downward and inward toward the body. There was a marked depression on the outside of the muscle. On flexing the forearm on the arm, the muscle elongated itself somewhat and drew further inward. The history of the case showed that whilst he was lifting a stove and at the same time drawing it toward him, he felt something give way in his arm and heard a distinct *snap*, at the same time becoming so faint as to be obliged to sit down. As soon as he was sufficiently recovered, he came to my office, where a fracture of the long-head biceps was diagnosed and he was treated by simply placing his arm in a sling. On account of the infrequency of such accidents, I have had him photographed and reported his case.

Yours, respectfully,

CHAS. K. LADD.

TOWANDA, October 27, 1882.

"SANITARY INSPECTION OF SEA-SIDE RESORTS."

To the Editor of THE MEDICAL NEWS.

SIR: I am glad to see an editorial in your issue of October 28, on the subject indicated above. There can be no doubt of the necessity for rigid sanitary inspection of the entire shore line of New Jersey; but there is one remark your editorial discloses that is not in strict accordance with the facts. It is this, "The soil of the whole Atlantic border of the State predisposes to a bad sanitary condition," etc. While this may be true of some sections, it is certainly not applicable to that portion of the coast, a distinguished feature of which are the *Highlands of Navesink*. Taking Sea-Bright as a starting-point, and following the northern and western line of the coast, for a considerable distance, the elevation above the sea ranges as high as two hundred feet, and the soil is a rich loam, with a gravel subsoil, which is under thrifty cultivation to the water's edge. The natural surface-drainage is complete, and the soils which underlie the surface, contribute by nature the elements for successful subsoil drainage. The forests are totally devoid of the characteristic Jersey pine, which only thrives in sandy land and is seldom found on hilltops. The Shrewesbury and Navesink Rivers skirt the foot of the mountain spurs, and the lawns of the summer villas which enliven their shores are green and fertile on a natural soil, the productiveness of which is proverbial.

The Board of Health should penetrate this region also, and should be none the less inquisitive and searching in its procedures, but yet it is due to truth and fair-

ness that exception should be made to your remark, which embraces "the whole Atlantic border," by excluding the region of the Highlands, which though comparatively small, does constitute a decided exception to the general and superficial observations of the coast of the State. For years past I have visited in the summer some part of the Atlantic coast of New Jersey, and am somewhat familiar with the line from Cape May to Sandy Hook. During the last summer I spent two months in the region referred to, and during that time took special pains to inquire of physicians and others into the prevailing disorders and their causes. Also in correspondence with the Board of Health of the State, urged a strict sanitary inspection of that, as yet, comparatively new region, that I might be fortified in the conclusions to which I had arrived concerning its exceptional advantages. I have the promise of the Board, but they have been so occupied with other duties that they have not yet made the inspection. I do not believe that any new place should be patronized as a summer resort that does not first secure the approval of the State Board of Health as to its sanitary condition, and that such approval should take the form of a certificate that should be framed and posted in every hotel and at all conspicuous places within the jurisdiction. The public would then have some assurance in which they could confide. As it now is, we are subject to the caprice and ignorance of local authorities and interested parties.

In the Highland region referred to, there are already evidences of marked improvement and growth. Navesink Park, Glenoble Park, Atlantic Highlands, Hillside Park, and corporations under other names are occupying and developing this remarkable region, which for beauty of situation, splendid mountain and forest drives over good roads, and magnificent ocean and landscape views, cannot be excelled. It needs only one thing more to complete the circle of attractions, and that is the guidance and direction of the State Board of Health to outline its sanitary policy. This has been solicited, and in due time will be secured, at least so far as Glenoble Park is concerned, and I have no doubt other parties in the same region will be glad to have the Board direct their course in matters appropriate to their special function.

As to the action of the press in this connection I am satisfied it sometimes speaks without proper knowledge or investigation. Much is said about *malaria*—a term that is used in a very indeterminate sense, and I am sorry to say, by the profession, as by others. People frequently overlook the fact that sewer gas that is eliminated during their absence and permeates their closed dwellings to greet them on their return from their vacations, produces illness, which is at once attributed to a summer residence in a locality that has not been protected by suitable sanitation. The old idea, that people may live in a malarious district for several consecutive months or even years and not be affected by the malarial conditions till they remove to a more healthy climate, still clings to many people, and they thus make grave mistakes as to the causation of diseases of which they may become the victims. I venture to say that there is no more common word that is on every tongue, and that is used by everybody to account for every form of disorder than the word malaria. Indeed it is now applied as a term designating a disease—you have the malaria, as one would say you have smallpox, is a very common way of putting it, and it is certainly as unscientific as it is untrue.

As I write this page I am in receipt of a letter from a medical friend in another State, who says: "I am just out from an attack of malaria." Had he proceeded to indicate the nosological rank of his disorder I should have been gratified. He resides in a hilly and rocky part of New England, and it is possible that the form of malaria in that locality differs from that which you describe as originating in a soil that is "porous," and "so saturated with decaying filth that it is a serious source of danger." Your description is unfortunately too true to be overlooked with safety, or denied with success; but it does not apply to the whole coast of New Jersey. There are exceptions, some of which I have ventured to introduce to your readers.

I am, Sir, yours, etc., J. P.

BURLINGTON, N. J., October 30, 1882.

NEWS ITEMS.

BROOKLYN.

(*From our Special Correspondent.*)

IMPURE DRINKING WATER.—Several cases of sickness having been alleged to be due to drinking the water of the public wells of the city, the chemist of the Department of Health, DR. E. H. BARTLEY, has examined about fifty of the well-waters, and has found that very few of them are fit for use as drinking water. About ninety per cent. of them are condemned on account of distinct evidence of their contamination by sewage, and the Common Council has been requested to cause the filling in of the condemned wells. Even the best of the wells are much inferior in purity to the regular Ridgewood water supply. The number of the public wells is being gradually reduced.

SALE OF OVERFED POULTRY.—The Commissioner of Health has been authorized by the Board of Aldermen to enact and enforce such measures as will protect the public against the sale of gorged or overfed poultry.

DENTISTS' LIABILITY.—In a suit recently decided by the New York Marine Court, General Term, Judge McAdam writing the opinion of the Court, the liability of dentists to their patients is stated. The suit was brought by Thomas J. Kelly to recover damages from Gardner B. Colton and Louis M. Colton for injuries caused by allowing a piece of a tooth which was being extracted to drop down the plaintiff's throat while he was under the influence of laughing gas. The piece slipped from the forceps, and for four weeks thereafter the plaintiff was troubled with a cough until he finally coughed up the piece. The Court holds that while a patient is under the influence of an anæsthetic which deprives him of the use of his faculties, the operator is bound to exercise the highest professional skill and diligence to avoid every possible danger, and in this case it is the opinion of the Court that on the trial the circumstances shown were sufficient to carry the case to the jury on the question of negligence.

The judgment appealed from was in favor of the plaintiff for $500 damages, and this judgment is affirmed by the present decision.

INTERNATIONAL CONGRESS FOR THE ADVANCEMENT OF SCIENCE.—At a recent meeting in Montreal it was suggested that an international congress of the British and American Associations for the Advancement of Science be held in New York or some other desirable point in 1884.

ILLEGAL PRACTITIONERS.—Two physicians—alleged quacks—in New York City have been fined for practising medicine illegally; the Medical Society of the County making the complaint on which the case was brought to prosecution.

RICHMOND.

(*From our Special Correspondent.*)

The Medical College of Virginia Trouble is in abeyance. The old Faculty and old Board of Visitors are still in possession, and it is not likely that an issue between them and the newly appointed board will be made before spring, when the case will probably come before the Courts.

LONDON.

(*From our Special Correspondent.*)

The Physics of the Circulation.—I was present last night at a lecture given by Prof. Lister to the members of the University College Medical Society, of which Society Prof. Lister was the president when he was a student at this hospital. The Society which is a very flourishing one, has during recent years had a special meeting in October, when it has asked some distinguished teacher to deliver a lecture. An account of Mr. Lister's lecture may interest your readers, but it is only fair to observe again that it was intended for students.

Mr. Lister then began by referring to the great value of the knowledge of the simpler physical laws in the study of physiology and in practical medicine, and deploring the fact that a knowledge of physics was still not insisted on by many of our qualifying boards, he stated his intention of pointing out some of the practical bearings of the laws of hydrostatics and hydraulics. He first reminded us of the fact that if fluid is poured into two communicating tubes it will always stand at the same level in each, whatever the relative size of the tubes may be, because fluid pressure is equal and opposite in all directions. Then he explained to us the "Hydrostatic Paradox," and the mechanism by which a small column of water is made to raise a heavy weight placed upon a communicating chamber of much greater area than the column, then naturally referring to the Bramah Press. As an illustration of the working of this physical law, he introduced the application of a graduated compress to a wound of the palmar arch. It was necessary to have the apex of the compress exactly on the wound of the artery, for if it were not the wound would be converted into a Bramah press, and the small force of the escaping blood would be multiplied into one great pressure which would either succeed in displacing the compress, or in distending the loose tissue.

Mr. Lister then passed on to speak of fluids in motion, and he used a simple apparatus for his experiments. It consisted of a vessel containing colored water raised upon a high stool; from this vessel passed a long rubber-tube which terminated in a small glass nozzle. The tap in the tube was turned and the height to which the fluid was projected was noted: 3 or 4 feet of the central part of the tube were then replaced by an equal length of a tube of double the diameter and four times the capacity, and again the height of the jet was noted—the same as before. It was then shown that the interposition of a larger tube in a smaller did not increase the difficulty of forcing on fluid, and therefore it was a great error to say or think that varicosity of veins caused an impediment to the circulation of the blood.

Next the tube was raised to various heights between the glass nozzle and the glass reservoir and also depressed, and this shown to have no influence upon the force with which the fluid escaped. Thus it was proved that by mere hydraulic laws the position of any part of the body could not influence the circulation except in so far as a slight yielding of the veins might be effected when in a dependent position, reminding us that raising the head of a person much debilitated from long illness may cause syncope from anæmia of the brain, and that depressing the head of a faint person will infallibly cure this condition and cause more blood to flow through the brain.

Mr. Lister also asked how this was to be explained, seeing that the brain was contained in a closed cavity, and that under the action of gravity it would be the veins rather than the arteries which would yield and dilate. To explain these effects, the following experiments were referred to: Many years ago he had had a horse slung so that he could be placed in any desired position; he then laid bare one of the metatarsal arteries, and observed that when the hoof was depressed the wound bled freely, and that the artery was large and pulsated forcibly; while if the horse was inverted with his hoof uppermost, the wound ceased to bleed and the artery shrunk and its pulsations were not visible; that this could not be explained by the alteration in the blood pressure was clear from the fact that, as pointed out by H. Hales, the blood pressure in the carotid of a horse would raise a column of blood seven feet, and the alteration in position was not to half this amount. Again, when a large artery like the femoral was exposed for the purpose of putting a ligature on it, the vessel was seen to be of constant calibre unaltered by the ventricular systole, and yet the blood pressure was double at the systole to what it was in the diastole. He had demonstrated this some years ago by a very ingenious experiment. A glass tube with an exceedingly fine orifice was fastened into the external carotid artery of a calf and inclined at an angle of about forty-five degrees.

The fine jet of blood was then made to fall on a sheet of white paper, the lower edge of which was 11½ inches from the calf; as the paper was steadily moved along, a tracing of the blood pressure by the blood itself was obtained; this was in the form of very bold curves, which, when measured, showed that during the contraction of the ventricle the blood-pressure was double that during its diastole. But yet, in H. Hale's original experiment, the blood only oscillated a few inches in his long glass tube, and in pulse-tracings, given in physiological works, the effects of the heart are shown by shallow notches only, while the effect of respiration was marked by a bold, free curve. This, Mr. Lister explained, was due to the fact that in these apparatuses a certain length of time was required for the systole to record its effect, and before this elapsed the diastole followed.

The last experiment was in the form of a demonstration on one of the students. Baring the two arms, the right was raised vertically and the left held dependent. In a few moments the former became pale, the latter turgid and red. An elastic band was now quickly placed around the upper part of the right arm to prevent any blood passing to the parts below. After a short interval this band was removed, and although the arm was still held up it became redder than its dependent fellow. Mr. Lister deduced from these facts that when any part is raised its vessels contract in obedience to a stimulus conveyed through the vaso-motor nerves, possibly excited by the slight dilatation of the veins which occurs at first; but when tissues are deprived of their supply of blood for a given time, the demand for it is so urgent that by means of the same nervous mechanism all the arteries are dilated, even in spite of the position of the part. So, when an artery is ligatured in its continuity, the part below is at first blanched and cold, but soon it becomes reddened and warm from the dilatation of all its bloodvessels. But the change in calibre of vessels produced by pressure may spread to neighboring parts, and accordingly raising the legs will cause contraction of the pelvic bloodves-

sels and give relief in cases of piles and many other diseases of the pelvic viscera. In cases of epistaxis raising the arms will cause contraction, not only of the arteries of the arms but also of the Schneiderian mucous membrane, which is often sufficient to stay the bleeding.

Thus was shown that the cause and cure of fainting could not be explained on merely hydraulic principles, but was evidently dependent upon this vital law by which raising a part caused contraction of its vessels through the vaso-motor nerves stimulating the circular muscular fibres of the arteries.

Mr. Lister had no time to give further illustrations of the use of physical knowledge. I think this lecture may interest your readers, particularly as it shows that Prof. Lister is not by any means a man of one idea who can only speak on "antiseptic" surgery.

The medical world is now in full activity. The schools have commenced, and rumor says that the entries of new students are hardly up to the average of recent years. The various medical societies are beginning their meetings, the Clinical Society leading off on Friday, Oct. 13. I shall endeavor to send you early notice of anything of special interest recorded at either of these societies.

VIENNA.

(From our Special Correspondent.)

PREGNANCY AT AN EARLY AGE.—A girl, *thirteen* years old, native of lower Austria, belonging to the peasant class, was admitted into Prof. Braun's obstetric clinic, in Vienna, upon Sept. 29th, in her first pregnancy. She had menstruated three times before conception occurred, and the menstrual discharges were said to have been profuse. The girl was slightly developed even for her age.

Abdominal examination revealed pregnancy in the ninth lunar month, vertex presentation. The pelvic measurements were as follows:

Distance between anterior superior spine of ilia,	24 cm.
Distance between crests of ilia,	25 "
Distance between great trochanters,	29 "
External conjugate diameter,	18 "
Internal conjugate diameter,	10 "
Conjugata vera,	8 "
Pelvic circumference, measured from spine of last lumbar vertebra, between trochanters and crests,	74 "

Vaginal examination revealed vertex presentation, first position.

Labor pains were felt at 6 o'clock P.M., Sept. 28th, the bag of waters ruptured at 8 o'clock A.M., 29th; birth of a male child weighing 2370 grammes, length 45 centimetres, followed at 12.30 o'clock P.M. Placenta was delivered a few moments later.

The mother has fully recovered and will soon leave the hospital with an abundant secretion of milk. The child is living and thriving.

ERROR IN DIAGNOSIS.—Within the last few days, Prof. Chrobak had occasion to call the attention of his class to an infrequent error in gynecological diagnosis.

A woman presented herself to him, with an excessively fetid vaginal discharge, which the accompanying letter of a famous Vienna gynecologist attributed to an ulcer upon the cervix, which he had labored for weeks, in vain, to cure by caustics, applied through Braun's hard-rubber speculum.

Prof. Chrobak, after a careful examination, withdrew from the vagina a sponge, with an excavation, neatly etched in its center, corresponding to the extremity of Braun's speculum, and doubtless mistaken by the zealous practitioner for a cervical ulcer; with the removal of the sponge, a large quantity of dammed-up menstrual fluid escaped, and the supposed ulcer instantly disappeared.

DR. WILLIAM F. NORRIS.—Americans generally, and Philadelphians particularly, studying medicine in Vienna, have been properly gratified by the flattering reception which has been accorded to Professor William F. Norris, M.D., upon his present visit to Vienna. Professors Stricker and Arlt have vied with each other in doing honor to their former pupil. Stricker, with his experiments upon cerebral localization, performed out of semester time and upon monkeys, and Arlt, with his specially arranged cataract operations, have evidenced in a substantial manner their high respect and esteem for the distinguished foreigner. This expression of good feeling is especially worthy of note as occurring in Vienna, a city proverbially slow to recognize merit in foreign physicians.

PROGRESS OF YELLOW FEVER.—The Surgeon-General of the Marine-Hospital Service gives the following *mortality for the week ending October 28, 1882:*

BROWNSVILLE, TEXAS.

Dates.	Cases.	Deaths.
From Oct. 21 to Oct. 25,	15	0
October 26,	8	0
" 27,	2	0
" 28,	1	0
Total,	26	0
Previously reported,	1951	114
Total during epidemic,	1977	114

PENSACOLA, FLA.

The official reports of the cases and deaths from yellow fever during the past week, as reported to the National Board of Health, are as follows:

Dates.	Cases.	Deaths.
October 24,	51	5
" 25,	38	2
" 26,	37	0
" 27,	33	1
" 28,	33	1
" 29,	9	1
" 30,	19	1
Total for week,	220	11
Previously reported,	1958	164
Total during epidemic,	2178	175

Among the new cases at Pensacola were the collector of the port, Tarbell (who is also mayor of the city), and his son. The latter died on the 27th inst.

SMALLPOX IN SOUTHERN AFRICA.—Capetown and its vicinity have been suffering during the past two months from an epidemic of smallpox such as is seldom recorded in these days of general vaccination. At latest dates about four thousand cases had occurred, while the disease shows no sign of decreasing. On September 18th, 114 cases were reported and on the 19th, 144 cases. It is estimated that one-tenth of the population have been affected. Fifteen per cent. of the cases have died. The people are averse to vaccination and the authorities have made no headway in checking the spread of the disease. The foreign shipping in the docks and harbor is largely infected.

DISEASE FROM UNCOOKED PORK.—An outbreak of trichiniasis occurred in Brunswick, Germany, during

the first week of October. Two hundred cases, many of them severe, were officially reported. They originated in the consumption of sausage prepared in a meat shop of good repute. The city authorities endeavor to protect the people against accidents of this kind by a system of inspection at the slaughter-houses, but this occurrence appears to have demonstrated the inefficiency of the inspections. An investigation has been ordered.

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE U.S.A.—From the advance sheets of the annual report of the Surgeon-General, U. S. A., we learn that the average number constantly on sick report during the year was nine hundred and forty-two, or forty-five per thousand of mean strength.

Of these, seven hundred and sixty-two, or thirty-seven per thousand of strength, were constantly under treatment for disease, and one hundred and eighty, or eight per thousand of strength, for wounds, accidents and injuries.

The total number of deaths from all causes reported among the white troops was two hundred and sixteen, or ten per thousand of mean strength. Of these, one hundred and forty-one, or seven per thousand of strength, died of disease, and seventy-five, or three per thousand of strength, of wounds, accidents and injuries.

The proportion of deaths from all causes to cases treated was one to one hundred and sixty-one.

The manuscript of the third volume of the Surgical History of the War of the Rebellion is now sufficiently advanced to allow the volume to be completed and laid before Congress during the coming session if no unforeseen delay in the printing occurs.

The Army Medical Examining Board during its session examined 216 candidates, of which there were found qualified 39, rejected 51, withdrew after partial examination 126.

The great necessity for a fire-proof building suitable for the proper accommodation of the Army Medical Museum collection and the library grows, yearly, more imperative.

The present building is over-crowded and unsuitable for the purposes intended, while its general insecurity against accident and fire, places in extreme jeopardy collections which, if destroyed, would be an irreparable loss not only to the United States, but to the world.

The museum has attained a world-wide celebrity; is second to none in the number and value of specimens illustrating military surgery and the diseases of armies, while its sphere of practical usefulness to the medical profession of the country is unlimited.

It is therefore hoped that Congress may be induced to appreciate its great value and importance and provide for the fire-proof building required to place the collections beyond the chance of loss or injury.

The Library of this Office is devoted entirely to medicine and its branches; no purchases being made of books belonging to general or miscellaneous literature. The works in it are not duplicated in any other library in Washington, excepting only those copy-right American medical books of which specimens are deposited with the Library of Congress. Many of these are also presented to this library, so that this small duplication causes very little expense. No advantage would accrue from merging this Library with any other; its size and importance, and the demands made upon it being such as to require the services of a specially skilled medical officer to make it as useful as it should be, and to preserve for it the interest of the medical profession of the country to which much of its completeness is due.

The additions to the Library during the past year include about three thousand two hundred volumes, and three thousand five hundred pamphlets, making the total number in the collection about fifty-seven thousand volumes, and sixty-three thousand seven hundred pamphlets.

The printing of Volume III. of the Index Catalogue has been completed and the edition distributed. This volume ends with the end of letter D. The manuscript of Volume IV., which will include the letter E and part of F, is nearly ready, and the first part of it is now going to press. The use of the Library by the medical profession throughout the country is steadily increasing, and the requests for information made upon it involve much research and extensive correspondence. Over three hundred such requests were received during the year, coming from all parts of the United States, and the total number of letters sent from this branch alone was over one thousand.

An estimate has been forwarded for printing Volume V. of the Index Catalogue, and it is specially desirable that this appropriation be granted in order that no delay may occur in the issue of this work, the practical value and utility of which becomes more and more apparent as successive volumes are published.

MICHIGAN STATE BOARD OF HEALTH.—The regular quarterly meeting of this Board was held October 10, 1882, at Lansing, there being present, Hon. Le Roy Parker, of Flint, President; Rev. D. C. Jacokes, of Pontiac; Dr. H. F. Lyster, of Detroit; Dr. J. H. Kellogg, of Battle Creek; Dr. H. Hazlewood, of Grand Rapids, and Dr. Henry B. Baker, Secretary.

The President read his annual address, reviewing the work of the Board, and suggesting work for the future in the line of securing the introduction of text-books on hygiene in the schools; greater attention by localities to the pay of health officers; and some amendments to the public health laws, etc.

The Secretary presented his quarterly report of work in the office, and annual report of property for the fiscal year ending September 30, 1882.

The Secretary presented a communication relative to wounds from toy-pistols, describing the pistols and the nature of the cartridges as determined by analyses, also a report of several cases of lockjaw and death following toy-pistol wounds. He also presented a *résumé* of the works of other State Boards of Health. He also presented the statement that the immigrant-inspection service in this State had been continued through October on a reduced scale, impairing its efficiency, and he was requested to urge, on behalf of this Board, the continuation of the service through the winter with the same force as in the past summer, because this Board believes there is great danger that smallpox will be introduced by immigrants from the lower Canadian provinces.

A committee was appointed, on request of the warden of the State House of Correction and Reformatory, at Ionia, to examine the plans of desired buildings at that institution.

Dr. Lyster reported in preparation a paper on the present knowledge of typhoid fever, and he was requested to prepare his paper in the form of a document for publication in the report, and for distribution. In this connection Dr. Baker presented two diagrams showing for the years 1877–1880 the relations of deaths from that disease to population, from which it appears that the common opinion among physicians, that this disease prevails mostly between the ages of eighteen and thirty-five, and that there is little danger after forty, is not sustained by facts. A greater proportion have typhoid fever at the ages between sixty and eighty than at any other age in life.

Dr. Lyster and Mr. Parker presented, and they were

requested to complete, a report on the recent epidemic of smallpox at Flint, and they were requested to include Dr. Mulheron's report of the same outbreak.

The Secretary was authorized to issue the circular to correspondents, relative to diseases in Michigan in 1882, and the circulars and blank forms for annual reports of health officers, and of clerks of local boards of health.

The subject of compulsory registration of plumbers was referred to Mr. Parker and Dr. Lyster for the purpose of bringing it before the Legislature.

The Committee on Sanitary Conventions was authorized to make arrangements for a convention at Muskegon, about the last of November, or first week in December.

The Secretary was authorized to purchase a Thomson's quadrant electrometer, and by means of it to enter upon the observation of atmospheric electricity.

Dr. Kellogg was requested to prepare a paper on physical culture.

Mr. Parker presented a proposed bill making it a criminal offence to communicate a contagious disease, and it was ordered published in the annual report for the purpose of bringing it before the legislature.

Dr. Baker reported that he had been informed of the suspicious illness of some cattle at the State Fair in Jackson, and that other cattle which had been exposed had been taken to the fair at Grand Rapids. On his information, Dr. Murray, Secretary of the State Cattle Commission, had investigated the subject, and believed the disease to be Texas cattle disease.

In Detroit, it was stated, it was proposed to erect a "flame-ventilated" smallpox hospital, as proposed by Dr. Wight, the health officer. Members questioned the practicability of the plan, and it was referred to a committee.

A committee, consisting of Mr. Parker and Rev. Mr. Jacokes, was appointed on a plan for the regulation of medical practice.

Dr. Kellogg suggested some action by the Board relative to having sanitary science taught in Michigan colleges.

Mr. Parker presented a report of the meeting of the American Social Science Association, presenting abstracts of the several papers on health subjects.

After transacting routine business, the Board adjourned. Its next regular meeting will be held on January 9, 1883.

INDORSEMENT OF NATIONAL BOARD OF HEALTH.—The following resolutions were unanimously adopted by the Sanitary Protective Association of Newport, R. I., at its regular monthly meeting, October 12, 1882:

Whereas, The good that was seen effected by the National Board of Health in protecting the country from the entrance and spread of infectious and epidemic diseases, in aiding State and local boards, and in stimulating them towards a more energetic performance of their duty, in investigating into the true nature, causes, and methods of reproduction of zymotic disease, in collecting and generalizing mortuary and health statistics, in giving a sense of greater security to every citizen, and in exciting all classes of society to a more intelligent appreciation of sanitary needs, has been from its first establishment well known to the members of the Sanitary Protective Association of Newport, R. I., as individuals, and to the Association as such; and

Whereas, The city of Newport has especial reason for gratitude to the National Board for its prompt action in response to the requests of the Association, in obtaining a change of the quarantine ground from its dangerous position in shore to a location more remote, and in making a thorough house to house inspection of the city; therefore,

Resolved, That the Sanitary Protective Association has perceived with regret the check that has been temporarily given to the usefulness of the National Board of Health by the failure of the Forty-seventh Congress to grant the requisite annual appropriation.

Resolved, That the Association is confident that this failure to supply its usual support to the Board has been owing to a misapprehension by Congress as to the importance and necessity of the functions of the National Board, the amount and value of the work it has accomplished, the assistance it has rendered to commerce through removing, lessening, or simplifying the restrictions previously upon it, and the cost of employing skilled agents competent to perform their various and responsible duties.

Resolved, That the Association sympathizes with the Board in its present disabilities, fully endorses its usefulness and activity in the past, and expresses the hope that at the coming session of Congress such action may be taken as will relieve it from its present embarrassments and insure it a better appreciation in the future by the representatives of the people whom it benefits and guards.

Resolved, That the above resolutions be transmitted on behalf of the Association to the Secretary of the National Board of Health, to be used as may best serve the interests of public sanitation.

ACTION OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY WITH REFERENCE TO THE ARMY MEDICAL MUSEUM AND LIBRARY.—At the last stated meeting of the Philadelphia County Medical Society the following preambles and resolution were unanimously adopted:

Whereas, There is reason to fear that at the next session of Congress an effort will be made to destroy the identity of the great Medical Museum and Library at Washington, by merging them into the general Congressional Library, and placing them under the control of the latter; and

Whereas, Under their present management this Museum and Library have grown to be the most valuable collections of their kind in the world, and are consequently of incalculable value to the cause of medical science, thus rendering their preservation and progress objects of deep interest to the medical profession of this country; therefore

Resolved, That the Philadelphia County Medical Society earnestly but respectfully requests the Honorable Senators and Representatives of Congress to make no change in the present management of the Army Medical Museum and Library, but would earnestly urge upon Congress the importance of providing a commodious fire-proof building in Washington for better preservation and protection of these invaluable collections.

THE KINGS COUNTY MEDICAL SOCIETY AND THE NEW YORK CODE.—The following is the text of the resolution offered by Dr. E. R. Squibb, and which was made the special order of business at the stated meeting in November, of the Kings County Society:

Whereas, It is known through the delegates of this, The Medical Society of the County of Kings, to the Medical Society of the State of New York, that the latter body did, at the annual meeting in February last, first discuss the abrogation of the entire Code of Ethics, and, that proposition having failed, did adopt the report of its Committee on the Code of Ethics, whereby that part of the Code which relates to consultations was not only practically abrogated, but a clause was substituted declaring that "members of The Medical Society of the State of New York, and of the medical societies in affiliation therewith, may meet in consultation legally qualified practitioners of medicine," which is in direct opposition to the former Code and to the Code of the American Medical Association; and

Whereas, This Medical Society of the County of Kings is in affiliation with, and is represented in both the Medical Society of the State of New York and the American Medical Association, it now finds itself with two Codes of Ethics which are in direct opposition upon the important subject of consultations, and with a by-law enforcing the Codes of both these bodies. If this County Society obeys the legislation of the State Society, it must give up its affiliation with the National Association; while if it holds to the Code of the National Association, it must lose its right of representation in the State Society by this rejection of its by-laws; therefore, be it

Resolved, That this Society earnestly desires to retain its relations with both the State Society and the National Association, and, if possible, will do nothing to sacrifice its right to representation in either body.

Resolved, That this Society deprecates the principle of the State Society taking revolutionary action upon matters of general and important professional interest without consulting the wishes of its constituent county medical societies directly upon the points to be legislated upon.

Resolved, That this Society regrets the action of the State Society in regard to this clause in the Code of Ethics, and respectfully asks that the action may be reconsidered and reversed at the next annual meeting.

Resolved, That this Society is in favor of having a Code of Ethics, and of having one that may be in substantial accord with the principles of the old Code of the State Society and the present Code of the American Medical Association.

Resolved, That a copy of this preamble and resolutions be forwarded by the delegations of this Society both to the State Medical Society and the American Medical Association, and that the said delegates be instructed to vote on this subject in the interest of these resolutions, upon whatever issue may arise concerning Codes of Ethics or their abrogation, because these resolutions express the will of a majority in the Society to be represented by said delegates.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.—At the annual meeting held October 23d, the following officers were elected for the ensuing year:

President.—David Webster, M.D.

Vice-President.—Andrew H. Smith, M.D.

Secretary.—Dr. Wesley M. Carpenter.

Treasurer.—Dr. Orlando B. Douglass.

Censors.—Drs. J. D. Bryant, H. B. Conrad, F. R. Sturgis, Daniel Lewis, W. R. Gillette.

Delegates to the Medical Society of the State of New York.—Drs. J. W. Howe, F. P. Foster, E. Gruening, D. Lewis, A. Gerster, R. M. Fuller, J. S. Warren, A. V. B. Lockrow, W. F. Mittendorf, D. Webster, C. L. Dana, A. H. Smith, J. H. Ripley, S. Sexton, P. F. Mundé, C. S. Bull, E. L. Partridge, W. M. Carpenter, L. Johnson, V. P. Gibney, O. D. Pomeroy, A. Hadden, W. T. Alexander, G. B. Fowler.

CLINICAL SOCIETY OF MARYLAND.—The following officers have been elected for the session of 1882–83:

President—Dr. Samuel Theobald.

Vice-President.—Dr. B. B. Browne.

Recording Secretary.—Dr. J. W. Chambers.

Treasurer.—Dr. T. A. Ashby.

Corresponding Secretary.—Dr. Randolph Winslow.

Executive Committee.—Drs. J. Edwin Michael, I. E. Atkinson, and George H. Rohé.—*Maryland Medical Journal*, October 15, 1882.

FEMALE OBSTETRICIANS AT THE PHILADELPHIA HOSPITAL.—At the recent election of visiting physicians at the Philadelphia Hospital, Blockley, two female physicians were appointed by the Board of Guardians on the Obstetric Staff of the Hospital.

THE STUDY OF ANATOMY IN THE STATE OF MARYLAND.—Two important laws have recently been passed by the Maryland Legislature, legalizing the practical study of anatomy and providing for the use of bodies, as subjects, of persons who would otherwise be buried at the public expense.

THE JOHNS HOPKINS MEDICAL SCHOOL.—It is announced that the Trustees of the Johns Hopkins Hospital intends to open that institution and the medical school to be connected with it, in the fall of 1883.

RECEPTION TO PROF. S. D. GROSS.—Drs. J. Marion Sims and Harry Marion Sims gave a large and brilliant reception to Prof. Gross on Thursday evening at the Brunswick, New York.

SCARLET FEVER IN LONDON.—London is at present visited by a serious epidemic of scarlet fever. On the 10th ult., there were 593 cases of fever, principally scarlet fever, in the Asylums Board's hospitals.

PERSONAL.—DR. LEO GERLACH has been temporarily appointed "extraordinary" Professor of Anatomy in the University of Erlangen.

PROF. PAUL VOGT has been called to Greifswald, in Hueter's place.

PROF. HUEBNER will succeed Erb, in Leipzig, who has been called to Heidelberg to the chair rendered vacant by the death of Prof. Friedreich.

THE PROMOTION OF THE STUDY OF PHYSIOLOGY.—By the will of the late PROF. F. M. BALFOUR, $5,000 is bequeathed to Dr. Michael Foster, to be applied by him to the promotion and encouragement of the study of physiology.

DR. C. R. AGNEW ON ETHICS.—In the October number of the *New York Medical Journal* is a long and labored article by Dr. C. R. Agnew, of New York, on the Limits of Medical Ethics. Some time since a learned metaphysical essay upon the same topic, by a well-known lay scholar of the State of New York, was given to the profession in a communication addressed, if we mistake not, to Dr. Agnew. In June last Dr. A. attended the meeting of the American Medical Association at St. Paul as a representative of the "new departure" in medical ethics made by the State Medical Society of New York. The attempt to carry such "reforms" into the national Association met with an overwhelming rebuke from that body. The voice of the Association was of no uncertain tone. The temper of that assemblage on this subject was manifest from the beginning to the close of the session. The meeting was largely attended, and its representation was thoroughly national in character. Dr. Agnew must have keenly felt the rebuke to the movement he was so earnestly pressing on the profession in the enthusiastic declaration of so large and respectable a body of his professional brethren.

Since that time the county societies of the State of New York, whose delegates compose a majority of the State Society, have unequivocally repudiated and rescinded the action of last year which established the new code. Even the homœopaths—and for all we know, the eclectics and clairvoyants—have declined to accept the privileges afforded by the wide latitude which the new code confers upon consultations; and yet, after all this, Dr. Agnew continues to urge the movement on the attention of the profession.

The article before us has this tragical motto at its

head: "Where liberty is gone, life grows insipid and has lost its relish.—ADDISON." It purports to be a reply to Dr. E. R. Squibb's able article upon the new code, which appeared last July, but it is in the main a recapitulation of the old, illogical arguments for abolishing the Code of Ethics. The claims that gentlemen need no laws to govern their intercourse with one another, and that nothing but good can come from the utmost freedom in consultation, are here renewed, with the familiar illustrations. He advocates consultations with all classes of irregular practitioners, and favors the adoption by Congress of Senator Cameron's resolution making it an offense to discriminate in favor of any "school of medical practice" in the appointment of candidates for medical service in any of the departments of the Government. He alludes to the "Old School of Medicine" when meaning the medical profession, and complains of the restrictions of the Code of Ethics of the American Medical Association.

There is only one feature of the entire matter to which we desire to direct attention at this time. We have called attention particularly to the fact that the great objection made to *the* Code is its restrictions in the matter of consultations. So far as liberty is concerned in general professional relations with the public, the profession, and patients, we can not see how objection could be offered to that admirable application of the golden rule. It is the part which relates to consultations which furnishes the theme of Dr. Agnew's article, and to which our brethren in New York have from the beginning directed their attack. When it was observed that the most prominent and active advocates of the new code at that slimly-attended meeting of the New York State Society in which it was adopted were prominent specialists, the suspicion arose in every mind that a desire for consultation with irregulars for the pecuniary advantage it would give, prompted their action. That this was the true motive of their conduct was freely charged, and it was indignantly repelled by the organ of the new departure in medical ethics.

Now, we would ask, is this persistence in urging the matter on the profession, in the face of the events of the past six months, calculated to remove this impression from the mind of that large and respectable body known as the medical profession? The profession of the entire country has expressed in unqualified terms its views and purposes relative to the movement inaugurated by the New York specialists, and it only remains for the advocates of the new code to accept the situation gracefully or to go out among the irregulars. One horn of this dilemma is inevitable.—*Louisville Medical News*, October 21, 1882.

HEALTH IN MICHIGAN.—Compared with the average of reports for the months of October in the preceding five years, all diseases named in this report, except influenza, puerperal fever, and smallpox, were less widely prevalent during the week ending October 21, 1882, than usual.

The reports of the State Board of Health for the week ending October 21, 1882, indicate that rheumatism, dysentery, remittent fever, and influenza, have increased, and that inflammation of the bowels has decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending October 21st, and since at twenty-two places, scarlet fever at eleven places, and measles at three places. Smallpox was reported at Niles October 21.

OBITUARY RECORD.—Died, on September 23, in Göttingen, the celebrated chemist PROF. FRIEDREICH WÖHLER, in the 84th year of his age. Prof. Wöhler commenced his chemical studies in Heidelberg with Gmelin, and for a year worked with Berzelius in Stockholm. In 1825 he went to Berlin, and in 1827 was elected Professor in the newly founded "Gewerbeschule," where he discovered the elements aluminium and beryllium. After living for five years in Cassel, he was called in 1836 to Göttingen, where he remained up to his death. He was associated with Liebig in editing the "*Annalen der Chemie und Pharmacie*," and with Poggendorff in the "*Annalen der Chemie und Physik*." His text-book of chemistry has had a wide reputation.

——On September 14, in Paris, GEORGES LECLANCHÉ, in the 44th year of his age. M. Leclanché is best known as the inventor of the peroxide of manganese battery which bears his name.

NOTES AND QUERIES.

DR. REITERS' REMEDY IN SCROFULA.

To the Editor of THE MEDICAL NEWS.

Dear Sir: Amongst the editorials in THE NEWS for October 7, there is one in regard to Dr. Reiter's remedy for inveterate psoriasis by the use of a saturated tincture of burdock seed. I wish to add my testimony to its efficacy in that class of cases usually termed scrofulous. About eighteen years ago, an old lady cured a patient of mine—a boy, five years old, who had been suffering from enlarged and suppurating glands in the cervical region, which had resisted all the usual tonic and alterative remedies—in about six weeks, by giving teaspoonful doses of the saturated tincture three times a day. I have since found it to be nearly a specific in that form of trouble, and in that condition of system characterized by a scaly eruption on the scalp and indolent ulcers behind the ears, occurring in unhealthy children, it almost invariably gives prompt relief. The tincture of the root will not do.

Respectfully,
W. H. CYRUS, M.D.

NOBLESVILLE, Ind., October 23, 1882.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 23 TO OCTOBER 30, 1882.

TURRILL, HENRY S., *Captain and Assistant Surgeon.*—Assigned to duty at Fort Omaha, Nebraska.—*S. O. 112, par. 3, Department of the Platte, October* 23, 1882.

BANISTER, JOHN M., *First Lieutenant and Assistant Surgeon.*—The leave of absence granted by par. 5, S. O. 203, Department of the Missouri, October 10, 1882, is extended one month—*S. O. 113, par. 2, Military Division of the Missouri, October* 23, 1882.

WILSON, GEORGE F., *Assistant Surgeon.*—Is relieved from duty at Vancouver Barracks, Washington Territory, and assigned to duty at Fort Townsend, Washington Territory.—*S. O. 148, par. 1, Department of the Columbia, October* 6, 1882.

OWEN, WM. O., JR., *Assistant Surgeon.*—Is relieved from duty at Fort Townsend, Washington Territory, and assigned to duty at Vancouver Barracks, Washington Territory.—*S. O. 148, par. 1, Department of the Columbia, October* 6, 1882.

BUSHNELL, GEORGE E., *First Lieutenant and Assistant Surgeon.*—Extension of one month's leave of absence is revoked.—*S. O. 247, par. 2, A. G. O., October* 23, 1882.

KANE, JOHN J., *Assistant Surgeon.*—Whose leave of absence granted October 9, 1882, Department of the Missouri, is extended two months.—*S. O. 247, par. 3, A. G. O., October* 23, 1882.

WYETH, M. C., *First Lieutenant and Assistant Surgeon.*—Will be relieved from duty at Fort Meade, Dakota Territory, upon his return from detached service and will proceed to Fort Yates, Dakota Territory, and report to the commanding officer of that post for duty.—*S. O. 172, Department of Dakota, October* 19, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

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ORIGINAL LECTURES.

THE TREATMENT OF PNEUMONIA.

A Clinical Lecture delivered at the University Hospital.

BY WILLIAM PEPPER, M.D., LL.D.,

PROVOST AND PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA.

(*Specially reported for* THE MEDICAL NEWS.)

IN a simple uncomplicated case of pneumonia, the result of a single exposure to cold, we have the best chance to study the therapeutics of this interesting disease. If it be seen in the beginning, the line of treatment should be decided upon at once, for the final result of an attack depends largely upon its management during the first forty-eight hours.

The first effort must be directed toward limiting the area of lung structure which will pass into a state of inflammation; in fact, to limit the disease. This can be done to a certain extent. There is one point where the irritation will be greatest, and there will be found the greatest amount of damage. Around this centre are areas where the damage wrought grows less and less, the further we are from the centre of the inflammatory process. Now, we cannot abort the disease in the centre, but in the surrounding areas where the inflammatory process has not progressed to so great a degree, we may so modify the process as to secure resolution in these parts.

We must enforce absolute rest of the body, and warmth and protection of the surface. The patient must not be allowed to exert himself at all. He must use the bed-pan and urinal, and must be fed by his attendant. This conservation of force is a matter of the most vital importance.

The nerves and vessels of the affected area can be influenced by local depletion. Place wet cups over the seat of pain. This stimulates the vaso-motor nerves, and causes the vessels to contract, leaving less blood in the part. If the pulse be strong and bounding, arterial pressure greatly increased, intense throbbing headache, high temperature and hurried respiration, the end sought will be more certainly secured by venesection than by any other mode of depletion. In the first stage of such cases, general bleeding is useful; but the cases are so seldom seen in their incipiency, that it rarely happens that we can resort to this measure. Still, if a case occuring in a vigorous subject presents the features above named, I have no doubt that a moderate venesection will do good.

The diet should be very restricted. Injudicious feeding and premature stimulation are very grave defects in the treatment of the early stages of acute diseases. There certainly are times when concentrated nourishment and strong stimulation are needed. Early in the case, however, a simple diet of light broth, gruel or milk, is all that is necessary. There is no danger of a person dying of inanition in forty-eight or seventy-two hours; he has his own tissues to feed upon, and he can get along very well upon a light diet, and in the early stage of pneumonia especial care should be taken to see that the stomach be not overloaded.

When there is an excited pulse and great arterial tension, veratrum viride should be administered. It may be given in doses of three drops at short intervals —say of three hours. Its effect must be closely watched. Cooling diuretic and diaphoretic drinks may be used, and quinia should be given in the early stages. If the stomach is in good condition, it may be given by the mouth in doses of four grains every four hours. It is usually well borne, and tends to limit the extent of lung which will pass into consolidation. If the stomach is irritable, great care must be used to avoid exciting vomiting, and the quinia should be given by enema.

At the end of forty-eight or seventy-two hours the evidences of consolidation are revealed. The part consolidated must go through resolution, and this we must favor. A more nourishing diet is needed, and there must be no further depletion, unless the patient be very plethoric, and there is excessive venous congestion, labored condition of the heart, and excessive bronchial secretion. But if the remedies have been used properly in the first stage, depletion will usually not now be necessary. The veratrum may now be omitted, and the salts of ammonium, especially the muriate, should be used to favor resolution, in doses of eight grains every three hours, combined with a few drops of dilute muriatic acid; and quinia should be continued in doses of two or three grains every four hours.

During all this time, the chest should be surrounded with cotton, or kept enclosed in hot mush-poultices. The patient may now have beef-tea, alternating with milk. If there be marked debility, wine whey, or a small quantity of whiskey, should be administered.

Another type of pneumonia is where there is marked gastro-hepatic derangement, with prominent bilious symptoms—coated tongue, nausea, perhaps vomiting and looseness of the bowels, the fecal matter containing undigested food; headache, insomnia, sometimes delirium, and a tendency to pass into a condition of typhoid debility. Here depletion is not well borne. Dry cups may be placed over the liver and over the seat of the inflammation. Most careful attention should be given to the condition of the stomach. Veratrum viride will often cause vomiting, and in that case it must not be used, but tincture of aconite root should be substituted, in the dose of three or four drops every hour, until it affects the pulse. Calomel and an alkali should be given from the start, the best alkali being bicarbonate of sodium. One-sixth to one-fourth of a grain of calomel, and three or four grains of the bicarbonate may be given every three hours, alternating with a dose of aconite. This should be continued until it affects the bowels, or until three to five grains of calomel have been taken. Quinia in such cases must be given by enema, or in the form of suppositories which, if properly made, are very effective.

Give whey, buttermilk, gruel, or champagne in tablespoonful doses. Treat the patient for catarrhal inflammation of the stomach and bowels as well as for the pneumonia. When the stomach is quieted and the tongue cleaning, resort to muriate of ammonium and muriatic acid.

These remarks apply to the common forms as seen in adults, but pneumonia in children presents some peculiarities as regards treatment. Quinia is well borne in comparatively very large doses; and stimulants are also well borne, and may be given at an early stage of the case. Veratrum viride should never be given to children. Give aconite in the first, and carbonate of ammonium in the second stage. I usually prefer carbonate of ammonium to the muriate in the pneumonias of

children, and especially when there are marked nervous symptoms.

In some cases stimulants are not needed until resolution is well advanced, and then only in small quantities. But there are cases where we are compelled to give them from the first, especially where there is marked nervous depression. Begin with very dilute stimulants. Opium is of great service; it may be called for in any stage, but it must always be given with great caution. Use the deodorized tincture, in combination with the muriate or carbonate of ammonium, when pain, nervousness, cough, sleeplessness, or looseness of the bowels are excessive. Do not forget that diarrhœa may readily be excited or maintained by the use of irritating remedies or injudicious articles of food when there is, at the same time, an irritable state of the bowels. When the stomach is irritable, opium may be given in suppository, along with quinia at night, quinia alone being given during the day. Ten to fifteen drops of the deodorized tincture may be given once or twice in the twenty-four hours, but if the cough is troublesome, it may be given in divided doses through the day, in combination with the salts of ammonium.

The complications of pneumonia are numerous, and require modifications of treatment, to all of which it is impossible I should now even allude. I am led, however, by the study of the case we have just seen to ask your careful attention to the importance of repeated examinations of the urine for albumen. This may be found as the result merely of congestion and increased blood pressure in the Malpighian tufts of the kidneys, and then it need not imply any great increase of danger. But when associated with the microscopic evidences of acute catarrhal nephritis, a complication by no means rare, the gravity of the case is much deepened. The same diet and the same stimulants and quinia may be used, but no blood should be drawn. Dry cups should be placed over the kidneys every day. Use repeated small doses of calomel and alkalies, and the infusion of digitalis as a diuretic. Continue this until enough calomel has been given, and then substitute muriate of ammonium and continue the digitalis. Convalescence must be watched much more suspiciously, and the patient should be compelled to remain in bed until all traces of albuminuria have disappeared. After the pneumonia has terminated by resolution, if this fortunate result occurs, the treatment suitable for subacute catarrhal nephritis may be instituted and continued.

ORIGINAL ARTICLES.

RESEARCHES ON THE EPITHELIUM OF THE CORNEA.[1]

By ERIC E. SATTLER, M.D.,
of Cincinnati, Ohio.

The cornea and its epithelium have played for a long time one of the most important *rôles* in the history of microscopy, and still serve as excellent objects for experimentation and generalization. It has become, as it were, classic ground, and many results, most generally accepted now, date their origin from observations first made on these parts.

It was according to the original suggestion of v. Recklinghausen[1] that weak solutions of various salts of silver were first used for impregnating, and thus coloring, the tissues. The method, as everybody who has used it to any extent can testify, was attended with excellent results. The solid stick of nitrate of silver was employed much less frequently for the demonstration of the more delicate tissue-structures, notwithstanding the fact that for the first experiments on the cornea with silver, the solid stick was used. Coccius,[2] Stricker,[3] Eberth,[4] and others, have used the solid stick on the cornea for observing the process of inflammation as it takes place in that structure; nothing, however, has been published to my knowledge of its use in clearly demonstrating the structure of the epithelium, and it was for the purpose of comparing the two methods that I made a series of experiments, with the results as shown in the following communication. I found that the direct application of the solid stick possesses many advantages, with none of the disadvantages, of the weak solutions of silver salts, and for a clear demonstration of the epithelium, is to be preferred to the old method. The greatest number of experiments were made on the corneal epithelium of frogs and the epithelium of the skin of batrachians. The mode of procedure is as follows: After removing the membrana nictitans of a recently killed frog, the eye is slightly pressed from the orbit with the finger introduced into the jaw, and the solid stick freely applied to the surface of the cornea until it has assumed a milky appearance. The pure nitrate stick is greatly to be preferred to the mitigated. The upper part of the head, with the eyes still remaining in the orbits, is then removed from the rest of the body, and is exposed in slightly acidulated water (formic or acetic acid) to the direct rays of the sun. This latter procedure is not absolutely necessary; as good, if not better, results may be obtained by simple exposure of the head to the sun, without the addition of the acidulated water. As soon as the corneæ have assumed a brownish color, they are carefully excised in the usual way, spread out with glycerine under a cover-glass, and looked at with a high power. The stick of silver may also be used on the living frog in the same manner as above, and beautiful specimens sometimes obtained in this way. On sunny days, fifteen to thirty minutes are all that is required to complete the whole procedure. A somewhat longer time is required on cloudy days. I have in many cases made excellent preparations in the short space of ten minutes.

The intercellular cement substance remains clear and unchanged, while the protoplasm of the cells assumes a light or dark-brown color, according to

[1] This article will appear in German in the next number of the "Archiv für Microscopische Anatomie," and has now been translated by the author, with some alterations and additions. The experiments were made in the laboratory of Prof. Waldeyer, at Strassburg, Germany.

[1] V. Recklinghausen. Virchow's Arch. für Patholog. Anatomie. Bd. 19.

[2] Coccius. Uber der Ernährungsweise der Hornhaut und die Serum führenden Gefässe des menschlichen Körpers. Leipzig, 1852.

[3] Stricker, S., and Norris, W. Versuche über Hornhautenzündung. Studien aus dem Institute für experimentelle Pathologie in Wien. Bd. 1, 1870, p. 1.

[4] Eberth und Wadsworth. Die Regeneration des Hornhautepithels. Virchow's Archiv für patholog. Anatomie. Bd. 51, p. 361.

the intensity of the action of the silver on the tissue. The nucleus remains light, I might with propriety say white, with sharply defined outline. The nucleolus is colored in a similar manner as the protoplasm, somewhat lighter however. Sometimes the protoplasm assumes a peculiar bluish color, as if stained with hæmatoxylin. As will be seen, one of the great advantages of this method consists in the coloring and clear demonstration of all the parts of the epithelial cell, an advantage which weak solutions never possessed. It always required a second staining with some other fluid to show the nuclei and nucleoli.

What strikes our attention in the first place, in good preparations of this kind, is the sharply defined appearance of only one layer of epithelial cells, and that the most superficially situated one, its dark coloring preventing the appearance of the immediately underlying layers. It is on this account that morphological conditions can be studied with scientific accuracy, in a *single* layer and be separated from conditions found in deeper layers, a circumstance, too, which is of great advantage in estimating the number and size of cells in a given space, as will be shown later on. The dark coloring of the cells is also imparted to the peculiar connecting links, if I may so call them, between the cells, the so-called lines of Bizzozero, and these peculiar processes can be beautifully demonstrated in preparations made in this manner.

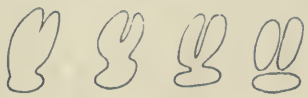
In the next place the form of the cells and nuclei claims attention. In the greatest number of cases, the outlines of the cells instead of being regular are irregular, due to peculiar projections or arms. The same feature may be noticed in many of the nuclei. These appearances give rise to an almost unmistakable impression and supposition that the cells, irritated by the application of the silver, had made amœboid movement, and had been fixed in one or the other phase of these movements. I know of no other method which demonstrates so clearly the amœboid movements of the cells and the nuclei as the direct application of the solid stick of nitrate of silver to the corneal epithelium. The nucleoli, also, stand out prominently, generally more than one being found in a nucleus. The minute structure (Kerngerüst), on the contrary, never becomes visible, therefore this method does not seem suitable for showing the "karyokinesis" taking place in the epithelial cells, yet nevertheless many interesting points can be arrived at also in this connection.

I come now to speak of the most important point, the division of the cell and nucleus, every stage of which process can be followed from beginning to end with the minutest accuracy and precision in the different specimens of the corneal epithelium obtained in this way. The peculiar karyokinetic figures, known by the Germans as "fadenknäuel," "sternfiguren," and "kernspindle," are, however, never met with. The nuclei always have the same appearances while division is taking place, as were figured by writers many years ago, *i. e.*, kidney or biscuit-shaped contracted nuclei, others only joined together by a thin thread, and finally cells with two distinct nuclei, the cells either unchanged, only increased in size, or also in a state of contraction and beginning division. I have seen several cells just on the point of division into two, each part of the cell with its distinct nucleus. Often the cells just at this stage were found in amœboid movement or violent contraction. Never, as I have remarked, do the peculiar well-known karyokinetic figures of Flemming appear, and it is surprising when we compare the always-occurring, sharply-defined figures of the division of the cell with the *stern* and *knäuel* figures made known to us by the indefatigable researches of Flemming, Strassburger, Magzel, and others, to find nothing whatever of these latter. If we seek to harmonize the results obtained by the application of the silver and those obtained by the method of staining by Flemming, only one hypothesis seems at all clear to me, viz., that the different appearance of the nuclei in the silver method is to be accounted for by the achromatic substance of Flemming. This substance is not brought out clearly by the staining method of Flemming, at least it disappears in contrast to the remarkable appearance presented by the chromatic constituents during the progress of the division of the cell. The silver method constantly shows the appearance of the entire nucleus with its chromatic and achromatic substance, which, however, cannot be distinguished from one another. We see, therefore, in accordance with the foregoing results, that the achromatic substance also shows amœboid movements during division, but in every other way takes part in this act in the simple way, as was formerly supposed. We must accordingly come to the conclusion, from the results obtained by Flemming and those by the method described in this paper, that the more fluid achromatic substance of the nucleus constantly surrounds the chromatic substance (or kernfäden) and divides in conjunction with this; and that, while the chromatin of the nucleus is successively passing through the various well-known changes of form and place, the achromatin divides in a simple manner, forming a sort of a hull around the chromatin figures. The proof for the correctness of this view would be furnished by preparations, in which, by some supplementary method of staining, the chromatic figures could be produced in the nuclei obtained by the silver method. I have tried this with various staining fluids at my command, but so far without success. Further investigations by other observers and other methods, however, might lead to some definite result, and experiments in this direction are certainly called for.

With the method detailed above, the nucleoli also show themselves, of somewhat lighter shade of brown than the protoplasm. The number found varied from one to four in one nucleus, two being probably the most constant. They varied in size, so that if two were present, one was generally smaller than the other. In accordance with the observations of Flemming, the nuclei were devoid of nucleoli as soon as division began. Again, I noticed in a great many cases evident budding and division of the nucleoli, as, for instance, nucleoli that were joined together by a thin thread only, and other forms pointing to the same thing. In

view of the present now generally accepted theory, that the nucleolus does not take part in the division of the nucleus and cell, I would like to call especial attention to these results, obtained by the silver method, agreeing as they do with theories formerly held, but in this age of rapid changes perhaps too eagerly thrown aside.

Here and there I came across an unmistakable triple division of a nucleus; that is, cells containing three distinct nuclei and nucleoli. I was able to follow the mode of division in various specimens, and shall, instead of a long description, illustrate it by the accompanying wood-cut.



Drawing showing the division of one nucleus into three.

Another peculiar advantage offered by my method of silver staining is the scientific exactness with which measurements can be made of the cells, for reasons given above. There can be no question of shrinkage of the cells. I compared the size of the cells with one nucleus with the size of those with two and three nuclei. The measurements were made with an ocular micrometer of Hartnack. The longest average diameter of those with one nucleus (result of twenty-five measurements)=0.0325 mm., shortest=0.0271 mm. Those with 2 nuclei (average of twenty-five measurements) were: longest=0.0487 mm., shortest=0.0398 mm. For two cells with each three nuclei, I found 0.072 : 0.042 mm., and 0.070 : 0.044 mm. respectively. A considerable increase in size is therefore noticed in those cells containing more than one nucleus in the various stages of division. To equal advantage we can employ this method in estimating the number of cells in division in comparison to those in a quiescent state. I know of no other method with which such accurate results in this line can be reached, for the reason that but one layer is visible, and hence cells of this layer and their outlines cannot be mistaken for those situated in deeper layers. For the cornea of the frog, after numerous countings, in the first layer of epithelium I found an almost constant ratio of 1 cell in division to 35 not so engaged. Very often I noticed a number of cells in division in close proximity, which, however, did not disturb the proportion.

In conclusion I would like to call attention to almost constantly occurring fine black lines, seemingly coming out of the intercellular cement substance, running over the protoplasm of the cell toward the nucleus, and suddenly disappearing from view as soon as they have taken their course a little beyond the edge of the nucleus. Distinct endings I have never been able to make out. Sometimes a line runs parallel to the outline of the nucleus, into which all these black lines seem to end. I have never been able to follow them to the nucleoli, as they always appear to take their end in the nucleus close to its edge. The number of these lines varies from two to ten. Often, too, the nuclei situated in a mother-cell were connected together in this way. These lines are not to be confounded with the fissures and cracks occurring in epithelial cells.

I should not like, without additional experimentation, to come to hasty conclusions, but the possibility that these lines may be *nerves* ending in the nuclei must at least be granted. I have tried, but without result, to verify these appearances with the various chloride of gold and other methods. The impregnation with the silver is so intense that an additional staining is out of the question. The appearance of the lines seems to depend on the degree of intensity with which the silver acts. Enough has been done by this little paper if it has called attention to some points still clouded by fog, and has stimulated others to continue investigations in this most interesting subject. In this way only is science advanced.

EXTENSION AS A SURGICAL REMEDY.

By JULIUS A. POST, M.D.,
of Lansing, Mich.

To my respected teacher, Prof. Sayre, I am indebted for much that has proved of assistance in my surgical labors, and not only benefited me, and been the direct agent of relieving the sufferings of many of my patients, but of giving them sound limbs and useful members to help them along the rugged path of life. While at Bellevue Hospital, in the winter of 1865–66, my attention was directed to the method of extension by the wheel and pulley, and the various apparatus and appliances for producing extension at the hip, knee, and ankle; and from that time to the present I have never lost an opportunity for applying extension, and have never been disappointed in the results.

My experience has been a pleasant one, and I would urge every practitioner of medicine and surgery to thoroughly acquaint himself with the tried and most approved methods of extension, and having become familiar with their varied workings, never to let an opportunity pass without availing himself of its almost magic power.

Thousands of crooked limbs and anchylosed joints are to be found in every section of our land, and their owners go wandering about as living, moving monuments, and not only disgrace the man whose stupidity was instrumental in producing their deformities, but are everlasting reminders of the monumental status of the old time surgeon, and *prima facie* evidence that the workings of extension were to him unknown. I well remember two cases of acute traumatic synovitis of the knee-joint which came under my observation during my student life. These two men I meet quite frequently, and as I look at them and see their crooked legs and hobbling gait, I almost blush, and I feel a nervous tremor, which I can only interpret as an evidence of pity and charity, not only for the deformed subjects of incompetent treatment, but that so little is known of the benefits to be derived from the judicious employment of extension.

My note-book is replete with cases which I have carefully studied, and in evidence of the benefits to be derived from a thorough and systematic applica-

tion of this important remedy, I will draw on them for a few cases to illustrate something of its good work. Not long since I was consulted by a medical gentleman from a neighboring town, with reference to a case of anchylosis of the knee-joint, following acute synovial inflammation. This is my apology for the present paper, and will explain the earnestness in which I labor to bring this matter before those practitioners who do not have an opportunity to observe the methods employed in hospital practice, and are not familiar with the treatment of diseased joints by extension.

One of the most marked cases, and one which interested me very much, was that of Mrs. G. She came under my observation in the spring of 1868, and on my first visit I learned something of her sufferings, and gathered the following history from her husband. Two years previous she was suddenly taken with a severe pain in the hip-joint. The pain was continuous, and extended down the thigh to the ankle, but seemed more fixed at the knee. Never for a single moment was she free from pain. Two years of continual suffering had brought her to the bed, and reduced her from a plump, rosy womanhood, to a skeleton with barely enough flesh to cover her suffering frame. Unable to stand or sit for a single moment, obliged to call assistance every time she wished to move, with an hour of quiet sleep unknown for two long years, indeed, she was an object of pity. It is needless for me to state that her medical advisers had been numerous. All agreed that she was a victim of sciatica. She had been blistered and setoned and issued, and powdered and pilled and purged, had taken great quantities of guaiac and colchicum, and dosed with almost everything known to the regular or irregular professional world. She had lived, as she stated, for months on morphia; but in spite of all this the pain still continued. She was slowly wearing away, patiently waiting for the summons to come to join the unnumbered dead.

Before visiting the bedside I had satisfied myself that sciatica was out of the question. The father and mother, brothers and sisters, were all in excellent health; noted for their vigorous constitutions and physical development. As I passed into the room occupied by the invalid, I could see that she was fully prepared to receive my instructions as to pills and powders with true Christian resignation. I found that this so-called sciatica had developed soon after a fall on the back-door step. While she was occupied with other matters I stepped to the foot of the bed and gave her a slight tap on the heel, with such good effect that she bolted upright in bed, and sounded a key-note of alarm which brought the entire household about us in dismay. I explained my position, called for a couple of bricks and some cord, attached the cord to the foot, tied it to the bricks, swung the whole affair over a roller at the foot of the bed, and in less than ten minutes she was sound asleep; she slept four hours, awoke, took some beef tea, and for the first time in two long years was free from pain. We continued the pulley at night, and the extension hip-splint during the day. In two weeks she sat up, walked about the room, and has never required any treatment except beef tea, eggs, milk, and such nourishing diet as any good housewife can place before a hungry person. She is now well, weighs 138 pounds, and thanks God every day, that extension has taken her from her seeming death-bed, and changed her to a healthy vigorous woman. So much for a case of sub-acute inflammation of the hip-joint caused by a twist of the leg while going down stairs.

It has been my lot to meet with several cases of sub-acute articular rheumatism, which have yielded speedily and kindly to the wheel and pulley. I know of no remedy so grateful to a patient who has been a long sufferer from an articular inflammation, as extension. I believe it to be a powerful agent, and in the hands of an intelligent man, in this class of cases, is capable of doing a vast amount of good.

Mr. H., aged 24, came under my care in May, 1867, for a so-called sciatica. The trouble began soon after immoderate jumping. He was in the second stage of hip-joint disease. An incision about four inches long, in the upper-third and outer-aspect of the thigh, disclosed about a quart of hard, cheesy-looking material, firmly held by the strong fibrous fascia lata. From this cavity was a sinuous passage to the hip-joint, through which the finger readily passed. A number of little, honeycombed pieces of bone came away with the cheesy substance. The wheel and pulley at night, and the extension hip-splint during the day, gave him a useful leg, about an inch shorter than its fellow, but with good motion, strong, and amply sufficient for all the practical purposes of life.

I might relate quite a number of cases, all of special interest, and each one testifying to the efficiency of extension. I have treated four cases of traumatic inflammation of the knee-joint, always using extension, and always with good results. I have yet to meet with my first case of deformity, or anchylosis, and I never expect to meet with one so long as the inflamed surfaces are kept apart.

A. C. N., aged 18, was a patient of mine with acute traumatic inflammation of the knee-joint, caused by a cut puncturing the joint. Extension reduced the inflammation rapidly, and motion, under chloroform, gave him a good leg. To-day he is an upright example of the good results of extension.

I find that I have notes of eleven cases of inflammation involving the synovial tissue of the ankle-joint, all treated with the wheel and pulley, and ankle-joint extension. I never have allowed a joint to become anchylosed, and I never shall so long as I use extension and passive motion. Extension is the sheet-anchor in joint inflammations, and so long as it is properly used I have little fear of crooked limbs and stiff joints.

Extension, as applied to orthopædic surgery, is in its infancy. The day will surely come when operative procedures, other than extension, and gradually bringing the deformed member into a normal position, will be entirely abolished. Muscles and tendons have been cut and hacked, deformities have increased, and limbs have been made permanently useless by meddlesome tenotomy. Extension has

done, and will continue to do all that the most enthusiastic tenotomist could ask for.

Another long stride in the right direction is the almost entire discarding of iron braces, and apparatus full of joints and hinges, screws and bolts, for the treatment of spinal diseases. For the past twenty years the plaster jacket has been largely in use in the treatment of spinal curvatures and disease of the vertebræ, and with a proportion of good results never before realized. The principle involved is entirely and wholly that of extension, and the only question open for discussion, is how best to apply that important factor.

In a number of cases of spinal curvatures and diseases of the spinal vertebræ, which it has been my privilege to attempt to benefit, I have employed the extension pulley and plaster jacket, with or without the jury-mast, as the case would require, and I have never met with a single case where I have been disappointed in the result of the treatment by extension. Retention of the parts in proper position is a valuable and not-to-be-forgotten consideration, but the fixation of the body without the necessary extension would be worse than useless. The paralysis of children is often relieved by the application of extension and the plaster jacket, and the use of electricity and massage, combined with fresh air and sunlight, gives the little patient a better chance to overcome whatever of disease may have fastened upon it. Faulty nutrition is thus improved, and feeble children will develop into something of better flesh and blood if given the opportunity. Fractures of the lower extremities are often treated by simple extension, the retentive appliance being nothing but two bags of sand placed along the sides of the fractured limb. Excellent results are obtained by this method of treatment. I know of no fact more deserving of attention than the one that any disease of the joints where irritation and inflammation is the result of pressure, and where pain can be relieved by extension, that remedy, extension, should be employed; and further, I am satisfied that extension is one of the most important surgical remedies.

ROUND-CELLED SARCOMA OF PROSTATE GLAND.

By H. R. WHARTON, M.D.

DEMONSTRATOR OF CLINICAL SURGERY IN THE UNIVERSITY OF PENNSYLVANIA; SURGEON TO THE CHILDREN'S HOSPITAL, PHILADELPHIA.

W. C., aged 35 years, was admitted to the University Hospital, on the evening of August 8th, suffering from retention of urine; numerous attempts had been made during the day to relieve the bladder by the use of a catheter, without success; the house surgeon after his admission also attempted to introduce a catheter, but finding that it went into a false passage, wisely desisted from further efforts.

When I saw the patient a short time after his admission, he was restless and complained of severe pain in the hypogastric region, the abdomen presented a smooth globular swelling which was dull on percussion and extended from the pubis almost to the umbilicus.

The patient stated that some years ago he had had gonorrhœa, which had been followed by a stricture, this had been relieved by the use of bougies, but for more than a year he had at times suffered from pain in passing his urine, which at no time was bloody; the present attack he said was the most persistent one from which he had ever suffered.

I first introduced a full-sized catheter into the urethra but as it approached the membranous portion of the canal, found that it slipped into a false passage; small flexible instruments were also tried without success.

On introducing my finger into the rectum I found that the prostate gland was very much enlarged. The patient was ordered a warm poultice to the abdomen, and given a suppository of belladonna and opium, to be repeated according to circumstances; in the course of an hour he was much more comfortable and had passed a few ounces of urine, and during the night passed small quantities of urine at intervals.

When seen on the following day the abdominal tumor was slightly less marked, the patient was comfortable, and was passing a fair amount of urine.

On August 13th, another attempt was made to introduce an instrument into the bladder, without success.

The patient did well until August 18th, when the abdominal tumor increased in size and he suffered from severe pain and retention of urine. The symptoms now becoming urgent, it was decided on consultation with Prof. Ashhurst, to etherize the patient and try to introduce an instrument through the urethra, and should this fail, to aspirate the bladder above the pubis, or to open the urethra through the perineum.

The patient being etherized, an unsuccessful attempt was made to introduce an instrument into the bladder; a medium sized aspirating canula was then introduced into the tumor through the abdominal walls, but no fluid was obtained except a small quantity of blood; in introducing the canula it was remarked that it gave the sensation of passing into a solid body, and after a careful examination it was evident that there was a solid tumor occupying the position of, or attached to the bladder.

It was now decided to open the urethra at the base of the bladder through the perineum, and the operation known as Cock's was selected, which consists in tapping the urethra through the perineum, with the finger introduced into the rectum and resting upon the apex of the prostate as a guide. This operation was accordingly done, and was followed by the escape of a small amount of urine, which caused some diminution in the size of the abdominal tumor and rendered its outlines and solid nature more observable. Through the rectum could be felt a smooth oval tumor behind the enlarged prostate, which was supposed to be the bulging posterior wall of the bladder.

The patient was put to bed and kept moderately under the influence of opium; he did well after the operation, and expressed himself much relieved, passing his water freely, and suffering only from an attack of dysentery, which was difficult to control, and was probably due to transmitted irritation. On

the ninth day after the operation, peritonitis suddenly developed, and caused a fatal termination of the case on the following day.

Autopsy (two hours after death).—Upon opening the abdomen, a large quantity of thick, yellowish-red, purulent fluid, having a urinous odor, was found bathing the intestines; recent lymph had been thrown out, and the coils of the intestines were everywhere bound together by adhesions, which were, however, easily separated.

The omentum was in places firmly adherent to the intestine, and contained numerous irregular nodulated masses, varying in size from that of a pea to that of a hen's egg. These masses on section presented a whitish-yellow color.

In the lower part of the abdominal cavity was a large, irregularly-shaped tumor, firmly adherent to the small intestines, omentum, colon, and pelvis.

After the separation of these adhesions, and the removal, by careful dissection, of the growth, it was found to originate from the prostate gland. On section, the tumor presented in parts the characteristics of scirrhus, in other parts those of encephaloid; in other places there were large irregular loculi, with reddened, irregular, friable walls, filled with fluid similar to the fluid found in the abdominal cavity, though no communication between these loculi and the abdominal cavity was found which might not have been made by the force necessarily used in separating the tumor from the intestines.

No trace of normal prostate gland or seminal vesicles could be discovered.

The bladder, containing a few ounces of urine, was found in front of the upper portion of the growth, its upper part almost on a line with the umbilicus.

The anterior wall of the bladder was perfectly normal; its posterior wall, resting on the tumor, was thickened, raised, red, and velvety, a condition caused apparently by the growth of numerous small villous masses in the epithelial lining, as the muscular coat did not seem to be infiltrated.

The ureters were normal and opened into the bladder in the normal position.

The urethra, as far as could be seen, ran along the anterior surface of the tumor, and was not involved by it.

The weight of the growth was five pounds and two ounces.

The kidneys, stomach, lungs, and intestines were normal; the capsule of the liver and spleen contained several secondary growths.

The brain and membranes were not examined.

Drs. G. E. de Schweinitz and W. E. Hughes, who made a microscopical examination of the tumor and the secondary growths, submit the following report:

MICROSCOPICAL EXAMINATION.—Portions from the primary growth, and also pieces from the secondary deposits in the omentum, liver, and mesenteric glands, were hardened in alcohol, sections were made, were stained with carmine, mounted in damar, and examined microscopically. The growth is a typical small round-celled sarcoma, as is shown by the uniform character of the cells, their embryonic structure, the wall-less bloodvessels, and the absence of any alveolar stroma. The secondary deposits repeat the structure of the original growth. In all the specimens the bloodvessels are numerous, being either simply vascular lamina, or else separated from the cells by a little fibrillated tissue. Many of them are filled with blood-clots. A faint, slightly granular, intercellular substance can be detected. In some specimens, here and there, old preëxistent connective tissue is seen. No prostatic structure is anywhere to be detected. The wall of the bladder, after preparation, exhibited the following characters: the epithelium of the mucous coat is proliferated and granular, the nuclei of the cells being not at all, or scarcely, distinguishable. The submucous fibrous tissue and the muscular walls are engorged with a small-celled infiltration.

Dr. Henry Formad, Assistant Demonstrator of Pathology in the University of Pennsylvania, who has examined the sections cut by these gentlemen, concurs in their opinion.

Malignant disease of the prostate gland is a rare affection; but its occurrence is probably not so exceptional as would be indicated by the statistical researches of M. Tanchon,[1] who found it present only in five instances out of 1,904 cases of males who had died of malignant disease. Sir Henry Thompson,[2] in commenting upon the above figures, states that he believes that they represent a much smaller than the true number, and bases his belief upon the errors which may have occurred, due to the source from which these figures were derived—from an ordinary register of deaths; and also, from the fact that encephaloid of the prostate gland rapidly involves the bladder, he thinks that many of the cases classed as vesical, may have had their origin in the prostate gland.

M. Jolly,[3] in a monograph upon this subject, mentions an aggregate of forty-one cases, which includes many of the cases collected by Thompson and Oscar Wyss, but the author himself thinks it is questionable whether some of the cases can properly be classed under the head of malignant disease.

Thompson reports eighteen cases of malignant disease of the prostate gland which he considers well authenticated.

Gross,[4] in speaking of tumors of the prostate, mentions cysts, fibromata, myomata, carcinomatous tumors, and sarcomata, but states that scirrhous, colloid, and melanotic tumors are unknown in this connection. Upon the question of scirrhus of the prostate, the latter authority differs from Thompson, who admits the existence of scirrhus of this organ, and states that he has himself seen one case, and knows of the existence of two others—one of them a case under the care of Mr. Adams, of the London Hospital.

Upon the question of colloid cancer of the prostate gland, the two authorities are agreed; but they differ as to the existence of melanotic cancer of this organ, for Thompson states that there are two cases of this affection on record.

[1] Thompson on Diseases of Prostate, p. 263.
[2] Op. cit., p. 264.
[3] Archives Générale de Médecine, 1869.
[4] Gross on Urinary Organs, p. 421.

A number of cases of malignant disease of the prostate gland can be found, which are reported as scirrhus, and these cases occur principally among the older writers; but this is explained by Jolly and Thompson by the fact that they based their diagnosis principally on the physical quality of hardness in the tumors, and did not rely on the more accurate and scientific test of a microscopical examination.

With reference to sarcomata of the prostate gland, Gross speaks of eight reported cases, and lays stress upon the fact that they occurred in infancy and early boyhood, and that the average age in the eight cases was only four years.

Socin[1] mentions a case of sarcoma of the prostate occurring in a man aged 51 years, who had been troubled with irritation of the bladder for more than a year, and had been compelled to use a catheter for five weeks previous to his death, which was caused by septicæmia; this case presents much similarity to that reported in this article.

A careful examination of the reported cases of malignant disease of the prostate will convince one that the encephaloid variety is the one most frequently met with, and I believe upon this point all observers are agreed. That childhood and old age are the periods of life in which it is most commonly found, is generally conceded, and Dr. Picard states that among children malignant disease involves the prostate more frequently than any other organ, the eye excepted.

Gross states that secondary deposits are found in ninety per cent. of all cases of this disease, but the extreme rarity of the involvement of the prostate itself, as a secondary affection, is also noted.

Spontaneous hemorrhage is also mentioned as a symptom of this affection, but is not as common as in carcinoma of the bladder, and is more apt to occur in the encephaloid than in the sarcomatous variety; indeed, it is said only to be observed in the sarcomatous tumors of the prostate after instrumental interference.

When the disease occurs in childhood, it runs a very rapid course, and generally terminates fatally in from three to nine months; whereas in adult and advanced age its duration varies from nine months to several years.

The treatment of malignant disease of the prostate is, of course, merely palliative. The pain and irritability referred to the bladder, must be relieved by full doses of opium, while retention of urine is to be treated by the cautious use of the catheter.

[1] Gazette Médicale de Paris, 1873, p. 410.

MEDICAL PROGRESS.

THE HYGIENIC, PHYSIOLOGICAL, AND THERAPEUTIC EFFECTS OF HIGH ALTITUDES.—DR. LOMBARD read a paper on this subject at the recent International Congress of Hygiene at Geneva, of which the following are the conclusions.

The insufficiency of oxygen in high altitudes may cause asphyxia if it is not combated by inhalation of oxygen; the *mal de montagne* is essentially caused by this diminution of oxygen. Respiration and circulation become more rapid as ascent is made above the sea level, while at the same time exhalation of carbonic acid is also augmented until an altitude of 1000 to 1500 metres is reached, when it commences to decrease. Above an altitude of 2000 metres, although respiration and circulation are accelerated, the insufficiency of oxygen tends to develop anæmia, although a temporary sojourn at such an altitude is stimulating to all the functions. The high altitudes exert a therapeutic and prophylactic influence on pulmonary phthisis. —*Gaz. Méd. de Paris*, September 30, 1882.

A NINETY-SIXTH PORRO-CÆSAREAN OPERATION.—DR. IGINIO TASINI, director and surgeon-in-chief of the Maggiore Hospital of Lodi, Italy, performed this operation in the said institution, on September 23, 1882. The woman was the subject of malacosteon, and her pelvis much deformed thereby. Both mother and child were saved. This is the 44th record of cure out of 96 cases. Italy numbers now 40 operations, with 17 women saved, or 42½ per cent. The whole percentage in the 96 cases, is 45⅝ of the mothers, and 77½ of the children.

RADICAL CURE OF HYDROCELE.—For this purpose, DR. LAMPUGNANI (*Gaz. Med. Lombardia*, 1882, No. 25), of the Pavia Hospital, employs with great success chloral hydrate dissolved in equal parts of warm distilled water, injecting, by means of Potain's capillary trocar, as a general rule, one or two grammes of chloral in children, four in the adult, and from that dose to eight grammes in the aged. The burning pain produced is allayed by cold applications; and if absorption has not become complete in eight or ten days, the injection, in a smaller dose, is repeated.—*Med. Times and Gazette*, October 21, 1882.

PERITONITIS IN NEWLY-BORN INFANTS.—DR. OSCAR SILVERMANN (*Deutsche Med. Zeit.*) writes that in newly-born infants two forms of peritonitis can be distinguished, a septic or acute, and a non-septic or chronic. The most frequent cause of the latter is syphilis. If the infants are not born dead, they show as symptoms, besides the aged and pinched expression of the face, prominent meteorism and ascites, enlargement of the spleen and liver, increased and shallow respiration, and cold extremities. A common result of this fatal peritonitis is atresia ani; less frequenlty stenosis and atresia of small intestines occur.

The post-mortem on the case here referred to, showed complete closure of the duodenum from the pyloric orifice to the opening of the ductus choledochus. The symptoms of a high-seated intestinal atresia, inflation of the abdomen to the navel, sinking in of the part below, distention of stomach, constant vomiting till death, and obstruction, were not present; but the abdominal distention being regular, the vomiting ceasing on the third day, passages of meconium and stools occurring, and tenderness of the abdomen also being present, the diagnosis of peritonitis was made.

The diagnosis of the septic form is easier, as it arises almost exclusively from infected navel wound. The symptoms are not, however, always constant even in this form, for vomiting and meteorism may be wanting, obstruction or diarrhœa present, and the exudation may sometimes not be felt on account of the meteorism.

The tenderness of the abdomen on pressure is not characteristic as it is also present in dyspepsia, colic, etc.; the pulse generally is frequent, but may be slow in weak newly-born infants, the temperature high, but may be subnormal. In the majority of cases there is jaundice, enlargement of the spleen, rapid emaciation and loss of body weight.—*Obstet. Gaz.*, October, 1882.

Detection of Bacilli in Tubercular Sputa.—Dr. Gibbes explains the failure to detect bacilli in undoubted tubercular sputa as follows: in some cases, where a patient is seen, and it is desirable to test the sputum at once, a small quantity only can be obtained, and this with evident effort; in these cases, no bacilli will often be found. The secretion coughed up comes from the back of the throat. A case of this kind puzzled him for some time. He had previously found a large number of bacilli, but on two occasions could find none. He gave the patient a wide-mouthed bottle, and told her to use it the first thing in the morning. She brought it the next day filled with thick sputum, which was literally crammed with bacilli.—*British Medical Journal*, October 21, 1882.

Oil of Wintergreen in the Treatment of Acute Rheumatism.—Dr. F. P. Kinnicutt draws the following conclusions from the results obtained in twelve cases of acute rheumatism, treated by oil of wintergreen.

1st. That in the oil of wintergreen we possess a most efficient salicylate in the treatment of acute rheumatism.

2d. That in its efficiency in controlling the pyrexia, the joint-pains, and the disease, it *at least* ranks with any of the salicyl compounds.

3d. That the best method of its administration is in frequently repeated doses, continued in diminished doses throughout the convalescence.

4th. That its use possesses the advantages of being unattended with the occasional toxic effects, the frequent gastric disturbance produced by the acid or its sodium salt, even when prepared from the oil of wintergreen; that its agreeable taste and finally its comparative cheapness are further recommendations in favor of its employment.—*Medical Record*, Nov. 4, 1882.

Ectrotic Treatment of Varioles in Smallpox.—Mr. M. D. Makuna draws the following conclusions in a paper in which he details his experience in the treatment of smallpox, in the Fulham Smallpox Hospital:

1. That ectrotics are useful only during the early stage of vesiculation.

2. That the cauterization by carbolic acid is the best of them all; but when a case has advanced in the vesicular stage some good might be done by cutting open the vesicles and applying a strong solution of carbolic acid.

3. That some good might be done by the caustic application of the nitrate of silver sticks to each vesicle after cutting them open, but the practice is attended with much pain and irritation.

4. That the practice of the exclusion of the ordinary daylight from the sick-rooms, especially at the expense of the ventilation must be condemned. (It does not prevent the process of germination, fermentation, or suppuration.)

5. That during the pustular stage our efforts ought to be solely directed to the evacuation of the contents of the varioles, relieve pain, and hasten the process of cicatrization.

6. That, during the convalescence, the less the irritants are used to remove the roughness and maculæ on the skin the better.—*Med. Press and Circular*, October 18, 1882.

Discoloration of the Skin by Topical Applications of Pyrogallic Acid.—Every one knows that when pyrogallic acid ointment is applied to the skin, the epidermis becomes more or less discolored, according to the particular part of the body to which it was applied, the tint varying from black on the palms of the hands and soles of the feet, to light yellowish-brown on other parts of the body. The color, which is confined to the epidermis, as several cases where desquamation has taken place have conclusively shown, is caused by oxidation, the oxidizing agents, according to C. Hupier (*Rép. de Pharm.*), being exceedingly numerous, the alkalies and the oxygen of the air playing the principal parts in the reaction.

The alkalies are to be sought for in the soap used to wash the patient's linen and person, more especially his hands. After having rubbed in the ointment, the patient generally has recourse to soap and water, in order to clean his hands, but he really increases the evil by oxidizing the pyrogallic acid absorbed by the pores of his palms. If he simply confined himself to washing his hands in warm water without soap and wiping them in a soft towel, the stain would be very much lighter. Another reason why the palms of the hands darken so considerably is the large number of sudatory glands that exist on these surfaces. Not only this, but the perspiration remaining alkaline until it is neutralized by the fatty acids secreted by the sebaceous follicles, it has an oxidizing action on the pyrogallic acid, there being no sebaceous follicles on the palms of the hands. Again, the epidermis being very thick on this part of the body, the color penetrates it to a greater depth. These last two remarks apply with equal force to the soles of the feet. Another reason why these parts become more strongly colored is that, pore for pore, a larger amount of perspiration is exuded.—*New Remedies*, November, 1882.

Case of Cancer of the Vermiform Appendix.—Dr. Beger reports a case of cancer of the vermiform appendix occurring in the clinic of Prof. Thiersch. The patient was a man aged 47, who had for three years suffered from a tumor in the right groin, which eventually suppurated and was opened by a free incision and a large quantity of pus removed. Although the general condition of the patient improved after the operation, a fistula with ulcerating edges remained. Microscopic examination proved the growth to be cancerous in nature, and from the glandular structure and freedom from symptoms of intestinal obstruction, it was concluded that the case was one of cancer of the vermiform appendix.

At the patient's request the cancerous appendix and a portion of the wall of the cæcum were excised under salicylic acid spray; death occurred in 36 hours.—*Berliner klin. Woch.*, October 9, 1882.

Diagnosis of Fœtal Monstrosities.—According to Prof. G. Calderini (*Deutsche Med. Zeit.*), there are no positive points for diagnosis of a malformed fœtus ante partum. It is, however, a point of great practical value as it would frequently change our entire method of delivery, if the viability or non-viability could be determined ante partum. The author calls attention to the following points, which should awake suspicion and direct our attention to the possibility of an existing malformation. He refers to the presence of an excessive quantity of liquor amnii. In three successive cases, he found such relationship existing between fœtal malformation and excessive liquor amnii. He supports his theory on the origin of the liquor amnii, for as it is supposed to mostly originate from the kidneys of the fœtus, an increased pressure in them must necessarily increase the waters. To prove this point changes in the vessels or heart must be shown to exist. In three cases out of four the writer found good grounds for the disturbed circulation, in the presence of only one umbilical vessel, a lengthening of the heart, pathological curvature of the spine, etc.

He hoped these remarks would lead to further ob-

servation of the relation existing between hydramnios and fœtal malformation.—*Obstet. Gaz.*, October, 1882.

CEREBRAL TUMOR AND UNILATERAL DEAFNESS.—STRUMPELL (*Neurolog. Centralbl.*, August 15, 1882) records a case of tumor of the right hemisphere, in which along with the general symptoms of cerebral tumor, and left hemiplegia with some degree of anæsthesia, deafness developed in the left ear, with a total inability to localize the origin of sounds.

After death a tumor was found of the size of an apple, situated in the middle of the ascending parietal convolution. Round the tumor the cerebral tissue was in a state of white softening, which extended forwards as far as the fissure of Rolando, backwards throughout the parietal lobe, and beneath almost into the central ganglia.

He is of the opinion that the deafness was probably due to lesion of the parietal lobe; and that the localization of sounds in space is a function of binauricular hearing.—*Brain*, October, 1882.

THE USE OF CARBONATE OF AMMONIUM SACHETS FOR BRONCHITIS.—M. MELSENS having observed the good effects of the atmosphere of a stable on those suffering from pulmonary diseases, which are rightly attributed to the emanations of carbonate of ammonium, he thought that continued, yet moderate, respiration of this salt might be useful in other affections of the respiratory organs. After a serious attack of bronchitis, he decided on trying on himself the effects of carrying a little bag round his neck containing little pieces of carbonate of ammonium. From the first day the amelioration was felt, and the cough soon disappeared entirely, while often persons who suffered from chronic bronchitis also obtained relief. The use of little bags of carbonate of ammonium are intended to produce the same result as the air of a stable or a gasworks.—*Med. Press and Circular*, October 18, 1882.

ANÆSTHESIA OF THE LARYNX PRODUCED BY CARBONIC ACID.—At a recent meeting of the Académie des Sciences, M. BROWN-SÉQUARD announced that some experiments had led him to believe that the sensibility of the pharyngeal and laryngeal mucous membrane might be so annulled by a stream of carbonic acid gas or chloroform, as to permit of the introduction of a laryngeal sound without causing any disagreeable sensations. His experiments have as yet been confined to animals, but as he proved as long ago as 1871 that a stream of carbonic acid might be directed into the pharynx without danger, it is possible that this method may become of use in laryngeal therapeutics. He promises to publish the results of the experiments with this object in view with which he is now engaged.—*Gaz. Hebdom. de Méd. et de Chirurg.*, October 6, 1882.

REGIONAL DIAGNOSIS AND TREPHINING.—WERNICKE and HAHN (*Virch. Archiv*, February, 1882) report a case of tubercular abscess of the left occipital region diagnosed from the symptoms, which were right hemiopia, proceeding to motor and sensory paralysis of the limbs on the right side. The skull was trephined (under antiseptic precautions) at the upper posterior angle of the left parietal bone, the dura and cortex incised and an abscess evacuated. The abscess was about the size of a hen's egg, and about three teaspoonfuls of pus were removed from it. The symptoms of paralysis and the general condition were at first greatly improved, but again returned before death, which took place a fortnight after the operation. The post-mortem examination showed a tubercular abscess in the left parietal and occipital region which had recently opened into the lateral ventricle. There were a few smaller softened tubercles in the neighborhood of the abscess. There were a few scattered patches of chronic tubercular pneumonia. The unsuccessful result was attributed to the unusual character of the abscess, and the absence of any capsule preventing the further extension and perforation into the ventricle.—*Brain*, October, 1882.

TWO NOVEL USES FOR PEPSIN.—DR. HOLLMANN (*Nederland Weekblatt*, 18, p. 272) has used an aqueous solution of sixteen grains of pepsin as an injection into the bladder of a patient who had hæmaturia, and in whom a catheter failed to empty the bladder. A few hours later, a dark, viscid, fetid fluid readily escaped through the catheter.

Dr. Ed. Rosenthal has used an acidulated and concentrated solution of pepsin as a local, hourly application to diphtheritic exudations of grave character, and reports that it caused rapid solution of the membrane. The solution was made with a drachm of Jensen's pepsin, twenty drops of chemically pure hydrochloric acid, in enough water to make a fluidounce.—*New Remedies*, November, 1882.

TABES DORSALIS IN INFANCY.—DR. LEUBUSCHER reports the case of a boy, aged three and a half years, who came under his care after having been unable to walk properly for six weeks; the difficulty being exaggerated when attempts at walking were made in the dark or with the eyes closed. There was some incoordination in the movements of the upper extremity and some defect of speech which appeared at about the same time that the difficulty in walking had been noticed. The knee and ankle reflex were absent, sensation appeared to be undisturbed, and no disease could be detected in any other organs. Marked improvement in the condition of the lower extremities took place under the use of the galvanic current, but speech and the condition of the arms remained unchanged. The question naturally arises whether this was an undoubted case of ataxia, the family history throwing no light on the case, or whether it was of diphtheritic origin, or evidences of the existence of a brain tumor; the author does not attempt to decide these points with positiveness.—*Berliner klin. Woch.*, No. 39, 1882.

SALICYLIC ACID AS AN ANTIPUTRESCENT.—The plan has been widely advocated of employing salicylic acid as a means of preventing decomposition in various forms of food. A committee recently appointed by the Académie de Médecine have been investigating the subject and publish their conclusions in the *Journal de Médecine de Paris* for October 14th. They declare that salicylic acid in quantities sufficient to prevent putrefaction cannot be regarded as anything but a poison, and all foods so contaminated should not be allowed to be sold.

TROPHIC TROUBLES IN NERVOUS DISEASES.—DR. POUGET gives the following *résumé* of his opinions as to the mode of production of certain trophic changes in nervous diseases, especially in locomotor ataxia. Falling of the nails occurs in locomotor ataxia without the existence of any traumatic cause; as a true trophic change it may occur in any stage of the disease and be accompanied by vaso-motor disturbances. The falling of the nail is generally preceded by an ecchymosis beneath the nail, but is unaccompanied by any pain, and, although the nail is rapidly reproduced, it is as rapidly lost again. This falling of the nail does not appear to be intimately connected with the shooting pains, the anæsthesia, or any special symptom of nervous disease.—*Rev. de Thérapeutique Méd. Chir.*, Oct. 15, 1882.

INTESTINAL MOVEMENTS IN DIARRHŒA.—Fifteen years have passed since Traube lamented that we had no definite experimental knowledge of the character of the intestinal movements in diarrhœa, and the recent series of experiments by PROFESSOR NOTHNAGEL, constitute the first attempt to supply the information. It is commonly assumed that during diarrhœa the peristaltic movements are increased in energy, and more constant than in normal circumstances. The experiments of Nothnagel were made upon the colon, as well as on the small intestine. The production of a moderate degree of inflammation proved a more difficult task than he had anticipated. The most suitable agent was a concentrated solution of chloride of sodium. Five c. c. of this were injected into the rectum several times in the course of twenty-four hours, the return from the anus being prevented. The movements of the bowel were observed the next day in the usual salt bath. Nothnagel, however, never succeeded in exciting inflammation in a larger tract than from thirty to sixty centimetres, and the enteritis was always slight in the upper, and considerable, and often hemorrhagic, in the lower part. The production of inflammation in the small intestine was much more difficult. Attempts to produce it by injecting irritant substances into the stomach by means of an œsophageal sound, and thus to imitate an occasional cause in man, were unsuccessful. Even sulphate of copper failed. Strong solutions caused rapid death, and weak solutions had no effect. Only local inflammation could be produced by the injection of a concentrated solution of chloride of sodium through the wall of a loop of the small intestine, withdrawn from the abdomen for the purpose through a small incision.

In both large and small intestine the peristaltic movements were rapidly increased by the inflammation, and the affected portion became filled with fluid, manifestly inflammatory exudation. The peristaltic contractions took the form partly of oscillatory movements, and partly of circular constrictions. Sometimes, however, the affected portion became the seat of a prolonged tonic contraction, which involved both the transverse and longitudinal muscular fibres. Very different, however, was the condition when twenty-four or forty-eight hours were allowed to elapse after the injection. The inflamed and empty section of the bowel was motionless, no contraction could be seen in it as long as the experiment lasted, and this even when the inflammation which had been excited was slight in degree. The conclusion therefore is that the early stage of inflammation is attended with very strong contractions in the inflamed portion, but that when the initial period is over and the inflamed part of the bowel is empty, the movement is not greater than in the normal bowel. Moreover, it appears that the contents of the bowel are, in the early stage, moved through the inflamed portion with increased rapidity.

In the course of his experiments Nothnagel had many opportunities of observing the occurrence of intussusception, which frequently resulted from a vigorous peristalsis in the uninjured intestine. The invagination always occurred from above downwards, a strongly contracted portion passing into a part in which the contraction was slighter, or which was at rest. The length of the intussusception was always slight—from half a centimetre to two centimetres. It usually quickly ceased, in consequence of the cessation of the contraction; and only once did it last as long as ten minutes. It is a frequent occurrence in the small intestine, but is comparatively rare in the colon. On one occasion an invagination of the colon was distinctly removed by the antiperistaltic contractions which were set up by an injection of chloride of sodium into the rectum.

Another subject investigated by Nothnagel is the influence of morphia on the intestinal movements. It will be remembered that he discovered in his earliest experiments that a sodic salt placed in contact with the outer surface of the intestine of a rabbit causes a local contraction which passes upwards. This effect was found to be prevented by a preceding subcutaneous injection of a small quantity of morphia, one to four centigrammes. Even bicarbonate of sodium, which under normal circumstances causes a very energetic contraction, no longer produces the effect. Nothnagel ascribes the effect to the stimulation of a nervous mechanism antagonistic to that which is excited by the sodic salt. If, however, a much larger quantity of morphia was injected—ten centigrammes, for instance—not only does the sodic salt produce its customary effect, but the constriction is much more energetic than under ordinary circumstances. This anomalous effect seems to indicate that, while small doses of morphia stimulate, larger doses paralyze the inhibitory nervous mechanism. Morphia appears thus to exert on the intestinal apparatus an action comparable to that which digitalis exercises on the innervation of the heart, which consists in a stimulation or paralysis of the inhibitory fibres of the vagus, according to the dose employed. Other experiments seem to show that the action of morphia on the intestine is exerted through the splanchnic nerves. The constipation produced by morphia is assumed to be the result of a stimulation of the inhibitory fibres contained in the nervous trunk, aided by a diminution in the intestinal secretion.—*Lancet*, October 21, 1882.

PATHOLOGY OF ADDISON'S DISEASE.—PROF. SEMMOLA regards Addison's disease as an affection of the central nervous system, the lesions of the suprarenal capsule being only manifestations of trophic changes. Prof. Semmola has recently published a memoir, in which he figures the actual histological changes observed in the spinal cord. These are, 1st, myxomatous degeneration of the stroma in certain points in the ganglionic centres and in the cœliac axis; and, 2d, œdematous infiltration of the tissues in the neighborhood of the medullary canal. The functions of the sympathetic are also disturbed, and, as a consequence, there are digestive diseases, fever, general disturbance of nutrition, and local changes in the skin. Prof. Semmola reports a case which is said to confirm his views as to the pathology of this disease, which was greatly benefited by prolonged galvanization of the sympathetic nerve by means of constant currents.—*Journ. de Méd. de Paris*, Oct. 14, 1882.

LIGATION OF PEDICLE AROUND DRAINAGE-TUBE IN EXTIRPATION OF THE WOMB.—DR. J. M. F. GASTON recommends the ligation of the pedicle around a metallic tube passed within the canal, through the cervix, or in the upper part of the vagina, when complete extirpation is requisite. It is claimed that the adoption of this process would have the following advantages:

1. Security against hemorrhage, primary or secondary, by the constriction of the tissues around the tube.
2. Efficient drainage and disinfection of the cavity.
3. Prevention of subsequent irritation by the removal of all ligatures before completing the cure of the case.
4. Maintaining the pedicle in its natural relation without any tension upon adjoining parts.
5. Closure of external incision by first intention, with the least possible delay.
6. Obviating the ordinary tendency to septicæmia.—*Medical and Surgical Reporter*, November 4, 1882.

INTESTINAL ORIGIN OF ALKALOIDS.—M. CH. BOUCHARD explains the presence of alkaloids in normal urine

by assuming that the alkaloids are formed in the intestine, absorbed by the bloodvessels, and eliminated by the urine. In support of this theory he states that fecal matter both in health and disease contains alkaloids in much larger quantity than he has been able to detect in the urine. He believes that the quantity of these alkaloids depends upon the activity of intestinal fermentations. The urinary alkaloids have the same chemical properties as those found in the feces, and their quantity varies with the amounts present in the intestinal contents.—*Rev. de Méd.*, Oct. 10, 1882.

Mechanical Stimulation of the Brain.—Various opinions have been expressed regarding the degree to which the cortex cerebri is excitable by mechanical agencies. Few experimenters have found the mechanical excitability to be well marked. The most noteworthy results thus obtained are those of M. Couty, who described movements as produced by such stimulation of the motor region, the effect closely resembling that following electrical stimulation. He stated, also, that these movements could be increased by causing inflammation in the cortex, either by exposing it to the air for a certain time, or by the action of various irritant substances. The nervous tissue becomes a little more consistent in consequence of the inflammation, and is less easily reduced to a soft pulp by mechanical disturbance. The effects obtained by M. Couty were of two orders: movements first on the opposite side of the body; and, secondly, on the same side as the hemisphere irritated, and in certain cases movements more or less general were produced. The first of these alone are comparable to the results of electrical stimulation of the motor zone, the others must be regarded as of the nature of reflex actions—*i. e.*, of sensori-motor nature. M. Vulpian has recently made a large number of experiments to ascertain the degree and character of the mechanical excitability of the gray cortex of the brain. In mammals, dog, cat, and rabbit, in the normal condition, he could never produce in this way the slightest movement either in the limbs of the opposite side, or in those of the same side. The mechanical stimulation was produced by rubbing the surface of the cortex with a small sponge, or a fragment of amadou, or with the points of dissection-forceps. Thus, in the dog and cat, after having carefully ascertained the points in which electrical stimulation produced movement of the face, or of the fore limb, or of the hind limb, varied mechanical stimulation was applied to the same points, but no movement could in any case be perceived. If therefore movements resulted from such stimulation in the experiments of Couty, the effect must have been purely accidental, or the consequence of some experimental error. The results were also negative when Vulpian repeated the experiments, after having produced inflammation of the surface of the sigmoid gyrus by tincture of cantharides, by essence of mustard, or by nicotine. The stimulation of the inflamed surface by various mechanical agents did not cause the slightest movement in any part of the body. Nevertheless, in Vulpian's experiments, certain effects were observed analogous to those which Couty regards as reflex, and which are produced by the mechanical excitation, not of the motor functions of the cortex, but of the sensory regions. When the sigmoid gyrus of the dog is galvanized or faradized, a certain amount of pain is produced even when the electrodes are placed a long way from the shreds of the dura mater, which are extremely sensitive. The points in this region which seem to be the most sensitive are those in which stimulation causes movement of the fore or hind limb on the opposite side, although these are far less sensitive than is the dura mater. But mechanical stimulation of these regions never, in Vulpian's experiments, caused indications of pain. Nevertheless, similar excitation of the deeper layers of the cortex, or in the subcortical portion of the white substance, usually caused unequivocal signs of suffering. When metallic wires are passed into the motor points of the sigmoid gyrus, and a faradic current of moderate intensity is passed through them, the movements caused in the limbs on the opposite side become stronger the deeper the wires are plunged into the cerebral substance, provided they penetrate to the white substance. These movements are absolutely the same as those which are produced by faradization of the surface of the convolution, and differ only in their greater extent and greater energy. In the same way, the pain becomes more intense when the wires reach the white substance. Thus the sensibility of the cerebrum itself is incontestably low. It is, however, augmented by repetition of the stimulus, and thus it is possible that pathological irritation may cause an exalted sensibility, which is evidenced by pain. It is only in the white substance beneath the sigmoid gyrus that mechanical stimuli elicit any evidence of sensibility. Elsewhere the white substance of the cerebral lobes seems to be absolutely insensible, although on this point M. Vulpian's experiments are not sufficiently numerous to enable him to speak with perfect confidence.—*Lancet*, Sept. 16, 1882.

Fatty Embolism in Fractures.—Dr. Angelo Minich (*Lo Sperimentale*, March and April, 1882) has recently published a valuable monograph on this subject, of which the following are the conclusions based on his personal experience:

1. Fatty embolism occurs in all cases of fracture, except in children, where it is absent on account of the small amount of fat contained in the skeleton.
2. This accident frequently causes death or alarming symptoms.
3. In such cases the fat does not cause inflammation, infection, or pyæmia.
4. Death is caused by enfeeblement of the central nervous system.
5. The presence of free fat, or fat in the form of an emulsion in the urine, is frequently a sign of dangerous embolism.
6. In cases of death after fracture, a diagnosis of fatty embolism should only be made with great reserve.
7. The treatment can be only symptomatic, and is generally powerless to prevent death in grave cases.—*Rev. de Chirurg.*, October 10, 1882.

To Disguise the Odor of Iodoform.—Dr. O. Petersen recommends the addition of one drop of the tincture of musk to each 40 grains of iodoform solution.—*Med.-Chirurg. Centralb.*, Sept. 29, 1882.

Cæsarean Section.—A successful case of Cæsarean section is reported in the *Archiv für Gynæcologie*, xix. 3, by Dr. Leopold, of Leipzig. The patient was a woman 29 years of age, who had already borne one child, extracted by cephalotripsy after perforation. She was 125 ctm. in height, and had a universally contracted rachitic pelvis of a flattened ace-of-hearts form. The conjugate diameter was 6 ctm. The operation was performed under antiseptic precautions. Previous to opening the uterus, the serous membrane was dissected off a longitudinal elliptical space, and turned back, after which a melon-like slice of uterus was removed. This procedure was with the object of getting sufficient serous membrane to allow of its edges being turned down previous to the application of the sutures. At the end of the third week both mother and child were convalescent.—*Med. Press and Circular*, October 18, 1882.

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SATURDAY, NOVEMBER 11, 1882.

THE THEORIES OF THE MERCURIAL TREATMENT OF SYPHILIS.

WHILE it may be admitted that the clinical evidence in favor of the administration of mercury in the treatment of certain stages of syphilis is quite sufficient to warrant its invariable employment, it is, of course, important to understand, if possible, its *modus operandi*.

The only theories pretending to explain its antisyphilitic properties, and at all worthy of consideration, may be classed under three heads: First. That it has an antidotal action by virtue of which it destroys the virus of the disease. Second. That through its so-called "tonic" properties it counteracts the anæmic tendencies of syphilis, and by improving the condition of the blood diminishes the severity of the attack. Third. That by promoting fatty degeneration and destructive metamorphosis it favors the disintegration and absorption of the new cellular elements which are found to pervade the tissues during the secondary period.

The first of these theories is alike incapable of complete refutation or of satisfactory demonstration. The existence of a virus has been denied, and has certainly never been proved. It is always imaginable as a more or less immaterial and elusive agency superadded to the demonstrable accompaniments of the disease, at one time infecting every portion of the organism, at another becoming dormant or quiescent for long periods, and then again breaking out with renewed vigor and virulence. It is certainly not a satisfactory theory which depends upon this mysterious agency and an equally mysterious destruction of it to account for the beneficial effects of mercury in syphilis, and it would only be acceptable in the absence of one more rational or better founded.

The facts that in the secondary stage the number of the red-blood corpuscles is markedly diminished and that under the use of mercurials it almost invariably increases, are well established by clinical and experimental observations. Is this, however, conclusive evidence of the possession of "tonic" properties on the part of the drug? If so, and if upon these properties its usefulness is contingent, why do not other tonics, especially iron, exercise an equal or at least a similar effect in the control of symptoms? That they do not is familiar to every syphilographer of experience, who, using them frequently as adjuvants, would not think of relying upon them exclusively.

As regards the last of these theories, two undeniable statements are made, viz.: that throughout the entire course of syphilis, and especially during the secondary period, extensive cell exudation and proliferation occur in all the tissues known to be affected by the disease, and probably in others beyond the reach of immediate exploration, and that the symptoms of syphilis are almost without exception produced in this manner. And next that mercury is in this, as in all other cases where it is desirable to prevent the migration and multiplication of new cell elements, or, especially, to favor the absorption and delay the organization of those already formed, by far the most potent drug in our armamentarium.

It is for this reason that we give it in meningeal troubles, in joint diseases, in pleuritic affections, in glandular enlargements, etc., and it is for the same reason, say the advocates of this theory, that it does good in syphilis. The anæmia of syphilis is explained by them as resulting from the impression made on the white-blood corpuscles by the newly formed and immature cells so abundant throughout the tissues, causing an arrest in the development of the former, prior to their transformation into red-blood-globules. The apparent tonic effect of mercury would thus seem to be due indirectly to its action on these new cells, which it would most readily influence by reason of their very instability. By favoring their elimination it would of course favor the uninterrupted manufacture of red-blood cells, which would increase in number.

The action of the drug in the later or tertiary stages of the disease is thought to depend on similar causes, but its therapeutic effects are then inferior to those of iodide of potassium, with which, however, it may be advantageously combined in the majority of instances.

Here again diverse opinions exist as to the *rationale* of the action of the iodides, and on some

future occasion it will be worth while to allude to and endeavor to elucidate them.

THE NATIONAL BOARD OF HEALTH.

From the full report of the proceedings of the American Public Health Association, and the letter of our Indianapolis correspondent, which are given in our last number, it is evident that the sanitarians of the country are almost unanimous in condemning the action of Congress in cutting down the appropriations for the National Board of Health, and also that they are upon the whole well satisfied with its organization and the character and amount of work which it has accomplished. This opinion is, we think, shared by the great majority of physicians in this country, and, in view of this prevailing sentiment, it is difficult to understand the motives which governed Congress in its attempt to asphyxiate, without totally destroying, the Board.

The statements of Dr. Cabell, the President of the Board, and of Dr. Bailhache, the representative of the Marine-Hospital Service, throw some light on this matter. It appears that the Treasury Department is hostile to the Board, claiming that it should have control of the disbursement of all funds appropriated by Congress for quarantine purposes, and preferring its own medical officer, the chief of the Marine-Hospital Service, as its agent for such work. The Marine-Hospital Service appears to be desirous of having the control of all quarantine work, claiming that it can perform this service at least as well as the Board, if not better, and with less expense. In this connection, the sixth resolution passed by the Association is especially significant, viz.:

"*Resolved*, That so long as the United States Government confines its maritime and inland quarantine service to the aiding of State and local boards of health, it is essential for the best results that such aid shall be through channels most generally acceptable to State and local boards of health whose coöperation is requisite, and we sincerely belive that the National Board of Health is the channel most generally acceptable."

The truth of this proposition seems indisputable.

We must confess that it has always seemed to us an unfortunate thing that quarantine duties and responsibilities should have been placed on the National Board in the first years of its existence—at all events so far as these involved executive functions. That the Board has done good work in securing comparative uniformity and simplicity in local quarantine regulations, we freely admit, and its influence in favor of proper inspection, disinfection, and prompt return to commerce of infected vessels, instead of the old style of detention for a month or more, has certainly been most beneficial. It is not clear to us, however, that it might not have effected all this equally well under the provisions of the Act creating the Board, which confined its work in regard to quarantine to the preparing a report on the subject.

The great value and importance of a national health organization depends upon its having the power and means to collect and diffuse information—to investigate the causes of disease, to educate the public, to furnish reliable data as to the sanitary condition of various places, and to bring to bear upon indolent and inefficient authorities the pressure of an enlightened public opinion. The work of the greatest permanent value which the Board has thus far done, has been in this direction; and yet it is precisely this class of work which the last House of Representatives selected for condemnation.

Putting aside the charges of extravagance made against the Board on the floor of the House—charges which we may consider hereafter—what were the reasons given for limiting the Board to work connected with cholera, yellow fever, and smallpox—*i. e.*, to quarantine, and to refusing to allow it to make investigations into the causes of diphtheria, or typhoid, or to publish its bulletin? On consulting the *Record*, we find that Mr. S. S. Cox, of New York, said: "I deny the right of the Federal Government to investigate the causes of disease. It has no more right to investigate smallpox than it has to investigate chickenpox or the measles." Mr. Robeson, of New Jersey, said: "We have confined the investigation to yellow fever and cholera, because the germs of these diseases are unknown, and because the specifics which are to meet and destroy them are yet undiscovered." Such are the views of two of the leaders of the House, displaying a depth of self-satisfied ignorance which we hope is not common among the members; for, if it is, there is small prospect of wise legislation on this matter.

With regard to the attitude of the Marine-Hospital Service in this matter, it does not seem to us to be quite satisfactory. It has the charge of the sick seamen and boatmen of the commercial marine, and has about $400,000 annually to expend for this purpose, besides special grants from Congress for the construction of hospitals. So far as we can learn, it has no more officers than are necessary to do this work; and it would seem as if it had plenty to do. Under the circumstances, the hostility of the Service to the National Board, and the openly avowed desire of its chief and representative to obtain control of quarantine, seem to us to be at least in bad taste, and not well calculated to attain its object. It would be much better for the Marine-Hospital Service to so manage the work with which

it is now charged, that there shall be a desire on the part of others to increase its field of action, and to wait for others to ask for the transfer of quarantine authority from the Board to it, rather than go into the lobby and urge such transfer itself.

It is the duty of the medical men of the country to look into this matter, and to endeavor to instruct their representatives in Congress so that such absurd utterances as those of Mr. Cox and Mr. Robeson will be estimated at their true value. On one point we think all physicians and scientific men can agree, viz., that the conjoint recommendation of the Board and the Academy of Sciences, made in 1879, that the United States should appropriate $30,000 per annum for skilled investigations into the causes of disease, and for sanitary surveys, was a wise one, and should be carried out, no matter who is to have charge of quarantine, or whether the United States is to interfere with quarantine at all.

SEWER GAS.

DR. F. H. HAMILTON, in the *Popular Science Monthly* for November, gives a rather pessimistic paper on sewer gas, taking the ground that it is the means of conveying scarlatina, typhoid, diphtheria, etc., and is the cause of much of the excessive mortality in cities; that all house plumbing is more or less defective, that water-traps will exclude neither gases nor germs, and that the only way to obtain safety is to exclude from those parts of the house in which we live, all plumbing having any direct or indirect communication with the sewers; in other words, that such plumbing shall be placed in a separate building or annex.

In this journal for September 2d, we gave a paper by Prof. Jos. G. Richardson, in which he argued that "the various theories to account for sewer infection in spite of air-tight traps, such as the siphoning out of traps, their partial corrosion and leakage, the absorption of sewer gas by the fluid sealing them, and its evolution from the inner or house surface, etc., may be relinquished," his reason being that a layer of micrococcus and mycelium may creep along the interior surface of a trap from the sewer to the house side and there give off its germs.

If these gentlemen are right, the residents of large cities are in a very dangerous position, and the only remedy suggested is either to build an annex for our plumbing, which in most cases is simply impossible, or to undertake to secure systematic and constant disinfection of all pipes, traps, etc., for which purpose there are various patent contrivances, the proprietors of which no doubt will extensively advertise the views above mentioned. Is it true, however, that the gases in a system of properly constructed sewers and connections are so very deadly? Is it true that the plan of house drainage which is now approved and recommended by the leading sanitarians and sanitary engineers of England and this country affords little or no protection against sewer gases or germs?

To the best of our knowledge and belief the answer to both these questions must be negative, and in this we agree with the immense majority of skilled engineers and scientific men who have investigated the subject.

Experience has shown that sewered cities are healthier than those which are not sewered, and that in cities partially sewered the mortality is less in those portions provided with sewers. This is notably the case in the city of Chicago. It is also found that diphtheria and typhoid fever are more prevalent in unsewered cities. The gases of sewers do not cause any specific disease, and are rendered harmless by sufficient dilution which may be secured by ventilation of soil-pipes and sewers. In a properly constructed system of sewers and house-connections there will be little or no offensive odor in the sewers. The great point to be kept in view in such a system is that all excreta shall be promptly and entirely swept out by a sufficient current of water. This cannot be done when sewers receive overflow-pipes from cesspools, for the discharge from these will always be more or less offensive.

In a proper system the communication between the sewer and the house soil-pipe is entirely cut off by means of a trap in the house drain outside the house, with an opening from the external air into this drain on the house side of the trap. The soil pipe is also continued up full size through the roof and left freely open at the top. With such an arrangement there is no danger of the passage of gases from the sewer to the house. The real danger is from minute particulate germs, and the practical question is, Can these pass a good ordinary water-seal trap? The experiments of Carmichael, Wernich, and Pumpelly show that they cannot, and so far as we know there is no record of any experiment to show the contrary. The test is not difficult of application—and until some competent observer obtains results different from those reported by the above-named gentlemen, we are bound to accept them. The fact reported by Dr. Richardson does not seem to have any bearing on this question. He found a fungous growth in a ball trap. But a ball trap is not recommended by the best authorities, and Dr. Richardson's observation simply confirms the unfavorable opinion we have long had of such contrivances. Nor does the Doctor present any evidence that the growth started from the sewer side of the trap. It seems quite as likely that it started from the house side. Again the character

of this growth is entirely different from that which characterizes the development of those microzymes which are capable of causing disease. It consists of creeping threads having a certain amount of consistency and firmness, whereas the germs which we know anything about are minute particles or single cells. The experiments of Prof. Doremus, to which Dr. Hamilton refers as proving the passage of gases through water traps, have really no bearing on the question under discussion. Prof. Doremus used the pure gases in a totally unventilated pipe—the actual state of things is a very dilute gas in a well-ventilated pipe—and under such circumstances Carmichael demonstrated by repeated experiments that the amount of ammonia passing through such a trap in twenty-four hours was from $\frac{1}{400}$ to $\frac{1}{200}$ of a grain, and that the amount of sulphuretted hydrogen passed in the same time is $\frac{1}{100}$ of a grain. These amounts cannot be appreciated by the sense of smell, and would have no effect on health were they one hundred times greater.

But, say the alarmists, your traps may be siphoned out. So they may if not ventilated—we are not defending a patent trap, or the usual contract job of plumbing; we agree that house drainage should be much more carefully looked after than it usually is, but the methods of securing a trap against siphonage have now been made clear by the experiments of Messrs. Bowditch and Philbrick published in the *Sanitary Engineer*.

In short, it seems to us that it is not yet demonstrated that it is necessary to fit up every wash-bowl, bath-tub, and water-closet with a complicated germicide apparatus, nor to build an annex to contain our house drainage, and we would advise our friends to make use of the best modern appliances, improve them if they can, but not try to frighten the public into hostility to house drainage and sewage, nor deny the results obtained by careful, well-known scientific observers, without having made a few experiments of the same kind themselves.

ASEPTIC VIRUS.

If some method could be discovered by which all extraneous qualities could be eliminated from vaccine virus so that only the really pure and isolated virus of vaccinia remained, one of the most formidable obstructions to the progress of universal vaccination and the extinction of smallpox would be overcome. The reports from various parts of the country, during the recent prevalence of smallpox, of well-authenticated cases of vaccination attended by very serious results from the inoculation of septic matter, and the consequent discredit of this valued means of prophylaxis, are suggestive of the need of renewed efforts in this promising and not altogether novel field of enquiry.

Three years ago Köhler experimented with thymolized lymph (one part of lymph and two parts of thymol solution, 1:1000) with such success as to warrant its use in the vaccine institution at Halle ever since. More recently, Dr. Richard Pott has ventured upon the use of other antiseptic agents, such as salicylic acid, boracic acid, and carbolic acid, with, as he claims, commendable success. Whether or not a solution sufficiently strong to neutralize all foreign and accidental admixtures will not also render inert the vaccine virus itself, is a question which needs further investigation. A five per cent. solution of carbolic acid had this effect.

The advantages claimed for the aseptic lymph are the following:

1. Any erysipelatous virus in the vaccine is probably destroyed.

2. Aseptic lymph may be preserved in good condition for years.

3. It is thinner, contains no fibrinous coagula, and with it twice as many children may be vaccinated as with the undiluted lymph—a circumstance of some importance in the present large demand for vaccine.

THE TREATMENT OF TYPHOID BY ERGOT.

Amongst the novelties of medical practice with which we are now surfeited, is the proposed employment of ergot in the treatment of typhoid. The results of this practice amply justify its introduction if we may rely on the published evidence. M. Débove administers in certain cases of typhoid one gramme (15½ grs.) of ergot in two doses. Of 24 cases, 8 were very grave, 11 were serious, and 5 were of moderate severity, and of these but one proved fatal. In a former series of 6 cases, 1 was very grave and 5 were of moderate severity, and all recovered. In still another series of 6 cases, 3 being very grave, 2 serious, and 1 of moderate severity, all recovered but one.

There is no explanation of the period and manner of exhibiting the remedy given by M. Débove in his report to the Academy of Medicine. As the whole amount of fifteen grains is given in two doses, we may assume that one is exhibited on each of two days of the first week.

Our esteemed colleague, Dr. Seguin, has been visited with a calamity than which none greater can befall any man. In the presence of such an affliction, words are powerless to convey an adequate sympathy. We content ourselves, therefore, with the simple assurance that we, as well as others of his numerous friends, are not unmindful of his sufferings, and share as far as we may the anguish of his bereavement.

REVIEWS.

Two Hard Cases: Sketches from a Physician's Portfolio. By W. W. Godding, M.D., Washington, D. C. Pp. 257. Boston: Houghton, Mifflin & Co., 1882.

Of the two hard cases the subjects of these essays, one was an inmate of the Taunton Asylum, Mass., and the other was Guiteau. The author, Dr. Godding, is an asylum superintendent. He comes forward with two cases to illustrate the position that mere eccentricity and faulty education make insanity. According to this view, half mankind should be shut up in an asylum to end the miserable sham by suicide, as was the final destiny of hard case No. 1. It would require a nice exhibition of casuistic skill to determine whether this hard case owed his final step to an irresistible impulse or to the horrible tedium of asylum restraint. He committed suicide after several escapes, and on his last return—it appears to us—in sheer desperation. What must be the future of a youth who has spent many years in an insane asylum? What hope for employment? That Dr. Godding's No. 1 should, in absolute despair, have returned to the asylum to commit suicide, seems to us a perfectly suitable conclusion to such a life.

The second "hard case," Guiteau, was, according to Dr. Godding, insane, and had always been so. Every act of his life, from his youth up, is a proof of mental perversion. He was not merely an eccentric, a deadbeat, an imposter, but insane. Our author does not define the form of mental derangement of which this criminal is the victim. He probably takes shelter behind the convenient *primäre verrücktheit*, which has rendered so much service to a certain group of mental philosophers.

The book is written in a popular tone, and is rather intended for literary and general than medical readers. It is very pleasant reading. Dr. Godding has a trained literary faculty, and hence his effort partakes more of the sensational than of the scientific. With this limitation we can commend it to our readers as an interesting book.

The Surgical Treatment of Hemorrhoids. By Walter Whitehead. Reprint from the *British Medical Journal*. 8vo. pp. 15. London: J. & A. Churchill, 1882.

Mr. Whitehead proposes to abandon the ligature and return to the knife, to seize each hemorrhoid by forceps, isolate it, or each separate lobe, if it be composite, and dissect it out by a V-shaped incision, twisting any arteries that bleed and uniting the margins of the mucous membrane by sutures.

In spite of the cases given, the method we fear is full of danger from hemorrhage and possible cicatricial stricture, but the scriptural rule is good, "Prove all things, hold fast to that which is good." His directions as to rest for three days previous to any such operation, in order to reduce the piles to their smallest size, his suggestions as to diet, to cleaning out the rectum, dilating the sphincter etc., are judicious.

Nitro-glycerine in Angina Pectoris. By William Murrell, M.D., M.R.C.P., etc. Pp. 78. Detroit, Michigan: Geo. S. Davis, 1882.

This libellus is an interesting account of Dr. Murrell's study physiologically and therapeutically of nitro-glycerine. We owe chiefly to the author our present knowledge of the action of this substance, although it had been investigated to some extent before he undertook the study of its actions.

Our readers will, doubtless, remember that we commented on the properties of this agent some time ago, and indicated Dr. Murrell's share in reducing the existing information into exact order, and in establishing its therapeutical uses.

This brochure is a nicely arranged book, from which the reader can obtain full information on this interesting remedy.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 2, 1882.

Fordyce Barker, M.D., LL.D., President, in the Chair.

After the reading of the report of the previous meeting by the Secretary, the deaths of the non-resident Fellow, Dr. J. Foster Jenkins, of Yonkers, and of the Corresponding Fellow, Dr. James C. Townsend, were announced.

The scientific work of the evening consisted in a paper by Dr. W. Edward Forrest, entitled

TREATMENT OF LABOR, WITH REFERENCE TO THE PREVENTION OF SUBSEQUENT UTERINE DISEASE.

Dr. Forrest having been summoned by telegram to the bed-side of his sick father, his paper was read by the Secretary of the Academy, Dr. Katzenbach, an abstract of which is as follows:

There is an unquestionable relation of cause and effect between the puerperal state and many cases of uterine disease. Gynæcologists tell us that from one-third to one-half of the cases of this disease that come under treatment date their trouble from a previous confinement. If such be true, and we have no reason to doubt the statement, it behooves us as obstetricians to look into this matter closely and see if the responsibility rests in any degree upon us. When we consider how chronic, how costly, and how injurious to mind and body uterine diseases are, we must realize that the prevention of this curse of the female sex is worthy our profoundest study and our greatest care. *Dr. Forrest did not wish to be understood as considering the obstetrician's responsibility for all the diseases of the uterus that follow the puerperal state, but there could be no question that some of the causes might be prevented by an intelligent and scientific management of labor.* We must sometimes feel that, had obstetricians made as great advances in *preventing* diseases as gynæcologists have in curing them, they would be less prevalent. The author stated that it would be his aim, first, to make his remarks practical; and, second, to found his statements as far as possible on anatomical and physiological facts.

Uterine disease, as a sequel of labor, may arise from two general conditions: First, from laceration of the pelvic tissues; and, second, from subinvolution of the uterus and vagina either with or without laceration.

Laceration, as a cause, is first in time as well as in importance. Indeed, subinvolution, as a rule, can be traced to laceration. Hence, it is of the utmost importance to study the manner in which lacerations are produced, and the means by which they may be avoided or remedied.

As to the frequency of laceration of the cervix, Dr. Emmet found that of all the women coming under his treatment for uterine disease, one-third were suffering from laceration of the cervix

Tables furnished by Dr. Sinclair, of the Boston Lying-in-Asylum, that out of 216 women examined by him,

on an average of 16 days after confinement, 76 or over 30 per cent. had laceration of the cervix, of these 44 were primiparæ and 32 multiparæ, 76 had fissure of the cervix, while 44 had well-marked or deep laceration. Of these, only 3 were forceps cases. From the above statistics it was plain that laceration of the cervix is a common accident during labor. Its frequency had not been suspected because physicians, as a rule, had not been in the habit of examining patients carefully at the close of the puerperal period, say 12 to 20 days after labor.

Not all the women with laceration of the cervix suffer from apparent uterine disease, but, as already stated, a large percentage of such diseases spring from laceration.

The most common cause of laceration spoken of in our text-books is rapid labor, or a rapid first stage of labor. Emmet says: "From *a priori* inferences I was prepared to learn that rapid labor was the most common cause of laceration of the cervix." Dr. Forrest, however, was of the opinion that this was the least common of all the causes of laceration. In support of this opinion he stated that dilatation is usually spoken of as if it were principally due to the mechanical pressure of the head or membranes upon the cervix. From this conception would arise a second theory, as a corollary to the first, namely, if the head descends slowly, the os will be less likely to be torn. Now, these two theories are directly contrary to the facts. Statistics show that only four per cent. of lacerations are characterized by rapid first stage of labor, while over thirty per cent. are marked by tedious first stage. In explanation of this fact it was stated that dilatation is not a mechanical but a physiological process. It might be called relaxation rather than dilatation. If dilatation were due to pressure alone, or mainly, why, in one case, should a thin cervix resist for hours hard pains and great pressure without dilating, while in any other case the os might dilate in a few minutes almost without pain. The author had had two cases where the os must have dilated, or rather relaxed, while the women were asleep, so that the children were born immediately upon the awakening of the mother, and with a single pain. He had observed the os dilate from the size of a silver dollar to full dilatation with a single pain, yet without laceration. Among uncivilized people rapid and unexhausting labor is the rule.

From these facts we may infer that normal dilatation of the os is rather a physiological than a mechanical process. The preparation for this process commences weeks before labor. We might infer that in natural labor there is not a contest between the body of the uterus and the cervix; but that there is harmony of action between them, so that when contraction commences in the fundus, relaxation takes place in the cervix. It was only when perverted nerve-force disturbed this harmony of action that mechanical dilatation of the os became an important factor. Reil nearly eighty years ago enunciated this theory, ... t during pregnancy the uterine polarity resided in the cervix, and that at the commencement of labor the polarity leaves the cervix and resides at the fundus, and that rhythmical contraction above then goes on, with relaxation below. This theory explains the statistics of Dr. Sinclair already referred to, in which of 76 lacerations, only 3 were characterized by rapid first stage of labor; that is, a first stage less than three hours in length. We can now understand why a rapid labor so seldom causes laceration of the cervix. First, rapid labors, as a rule, are natural and have undisturbed nerve relations; second, there may be no more pressure on the cervix than in tedious labor, because the cervix in the former case gives way before the advancing head; third, in the rapid labor the resiliency of the cervix is not exhausted by long-continued pressure, and therefore pressure is less likely to cause laceration. But suppose that precipitate labor does threaten laceration. The theory above given indicates the remedy, viz., the administration of something that controls perverted nerve force; hence, chloroform, chloral, or morphia. The finger of the attendant on the child's head will modify undue pressure on the cervix.

The second cause mentioned in our text-books is tedious labor, or, rather, a tedious first stage of labor. This is spoken of as a possible cause rather than a most important one. Dr. Sinclair's tables show that of 37 well-marked cases, 34 were characterized by a first stage of labor lasting from 12 to 36 hours. Dr. Emmet had found that 30 per cent. of the cases treated by him were attributed to tedious labor, which was opposed to his *à priori* inferences. This proportion would be greatly increased by the addition of forceps cases which could be placed under the head of tedious labor.

It seemed evident, then, that tedious labor is a very prolific cause of laceration of the cervix. Anatomical reasons in support of this view were then adduced by the author of the paper. Copies of Braun's plates, made from frozen sections, were presented, showing the relation of the pelvic contents in the ninth month of pregnancy and at the beginning of the second stage of labor. It was pointed out that the change which had taken place in the first instance was that the bladder occupied a position behind the pelvis. The os internum and os externum were on a line with the pelvis and that there was a solid pelvic floor. In the second instance it was shown that the os internum had now risen some distance above the pelvis. The bladder had likewise been drawn upward and the urethra lengthened. The walls of the uterine body have become shorter and much thicker, while the cervix, on the other hand, has become long and very thin. In this case the os internum had dilated in *harmony* with the dilatation and retraction of the os internum, and the parturient canal was ready for the speedy delivery of the child.

In the case of tedious labor, when the os externum does not dilate in harmony with the os internum it was shown that as labor goes on hour after hour, the uterine body will shorten, the os internum and bladder will be drawn upwards by the shortening from one to three inches above the pelvis, and that as the os externum does not dilate the shortening of the uterus and the retraction of the internum must take place at the expense of the cervix which becomes stretched to three or four inches in length and as thin as parchment. This could be easily demonstrated upon a living patient. If an examination of a case of tedious labor was made where the delay was in the first stage, it would be found after some hours that the bladder, even if it contained bu an ounce of urine, would present itself as a bulging tumor halfway to the umbilicus, and upon passage o the catheter the urethra would be found three inches in length.

What then was the remedy for this prolific cause of laceration of the cervix? evidently the prevention of tedious labor. This was to be accomplished by restoring, if possible, the harmony of action that should exist between the body and the cervix uteri, so that dilatation below may keep pace with contraction above. The remedies to be used in the shape of drugs were morphia and chloral, which were to be given, not as commonly supposed, for their relaxing effect on the cervix, but for the purpose of relaxing disturbed nerve function. They should be administered before nerve force had become exhausted. They were to be administered in moderate doses, for the object was not to paralyze the uterus but to regulate nerve action. Gentle manual dilatation of the os was recommended as a useful measure.

The indication for action will be found from a study of the position of the bladder by observing when the utero-cervical junction begins to appear above the pelvis, showing that the os internum has dilated, and what is of more practical importance than either of these signs, by watching the formation of what Dr. Forrest calls the anterior vaginal cul-de-sac, which is formed between the pelvis and the cervix by the rising of the bladder.

Why should one woman with a normal pelvis and the child in a favorable position suffer for hours before the os dilates, while another woman, whose structure is apparently the same, or even a weaker muscular development spend about an hour in the first stage. This question could not be easily answered, but the process was probably governed by nervous conditions, the laws of which we have not yet fathomed.

Instrumental delivery was often spoken of as a cause of laceration of the cervix; undoubtedly, the forceps in careless and unskilful hands may give rise to this accident, but it has been shown that tedious labor is a common cause, and it is in just such cases that the forceps is used. It is impossible to say how many lacerations are directly due to the forceps. The truth is, that the forceps when carefully used seldom cause laceration.

When the profession are united in a uniform system of observation, we would have a ground on which to make some positive deductions.

Digital dilatation is spoken of as a frequent cause of laceration of the cervix, but the author was convinced that, when intelligently employed, it would not only not cause laceration, but might be a most important means of preventing it. The time for this measure is when the evidences are present to show that the os externum is not acting in harmony with the lower uterine zone.

Abnormal presentation may be one of the causes of laceration of the cervix, but it is hardly within our province to speak of it here.

Premature rupture of the membranes, if it occurs spontaneously, may predispose to such an issue. It is hardly necessary to caution against intentional rupture of the membranes until the os was dilated.

The giving of ergot before the os is dilated or ready to dilate, since it is unknown among intelligent physicians, hardly need to be referred to.

Supposing, however, after taking all possible precautions, laceration of the cervix occurs, as it sometimes must of necessity, what is the duty of the accoucheur in order to remedy this trouble and prevent future uterine disease. The first indication was to keep the wound clean and disinfected; the second was to bring the lips as nearly together as possible by means of stitches, plasters, or compressors. The utmost cleanliness should be enforced. The nurse should be instructed to give three or four injections daily. Stitching was hardly to be thought of; plasters and compressors could not be employed. Dr. Forrest had recently experimented with elastic bands which were slipped over the cervix in order to keep the torn cervices approximated. This procedure was still in the experimental stage, and Dr. Forrest was not yet prepared to give the results of the treatment.

Subinvolution is a term that has been of late years in vogue among foreign pathologists. Dr. Forrest considered this condition not so much a cause of uterine disease as constituting in itself uterine disease. Normal involution of the uterus may be supposed to be completed in from twelve to twenty days, instead of from four to eight weeks, as usually supposed. Various conditions might interfere with the process of involution. Dr. Emmet says he does not remember treating a case of subinvolution without finding more or less laceration of the cervix. Laceration of the perineum is said to be a common cause. Septicæmia, especially when associated with laceration of the cervix, is a most potent cause of subinvolution. The obstetrician is more frequently responsible for septicæmia than almost any other complication that may occur during labor.

Loss of blood, general debility, nervous excitement, too early leaving the bed, may all be causes of subinvolution. Subinvolution may be avoided to a greater or less extent by tonics, small doses of ergot or the wine of American ash. The patient should be kept in a recumbent position, with an undisturbed mind, and, above all, the utmost cleanliness should be maintained.

The last and most important portion of this paper, the author stated he was unable to put in shape for reading for want of time.

DR. BECKWITH agreed with the author as to the advisability of examining all patients for laceration within six weeks after labor.

DR. CASTLE said that he was not entirely prepared to accept the author's conclusions in regard to the *rationale* of laceration of the cervix. There was at least one cause for delayed labor in the first stage which the author did not mention, namely, slightly narrowed pelvis. This he believed to be the real cause very frequently, when it was supposed to be due to rigidity of the cervix. Another statement which he would make was in regard to the œdematous condition of the distended cervix. He believed that the softening which takes place during the first stage of labor was due to œdema, and hence it was desirable that œdema should exist. The hydrostatic pressure exerted upon the cervix by the bag of water was another factor favoring an œdematous condition of the cervix. In cases of early rupture of the bag of water we meet with rigid non-œdematous cervix.

DR. C. C. LEE felt no little diffidence in expressing his dissent from some of the views contained in the paper, partly because of the great worth and value of many of the suggestions contained in it, and partly because of the author's absence. In many points he agreed perfectly with Dr. Forrest. He believed, as did Dr. Forrest, that in a majority of cases of laceration of the cervix, it would be found that delayed labor was the cause. He had also looked upon the œdematous condition of the cervix as one of the causes of laceration. When excessive laceration of the cervix occurred, it could be detected upon the introduction of a speculum by the bright red blood flowing from the torn surface, in contradistinction to the small quantity coming from the fundus. He referred to three cases in which he had resorted to reparative operation immediately after severe laceration of the cervix. In the first he used silk stitches, in the second wire, and in the third serre-fines. All three operations were most signal failures. From this experience, he had resolved never to attempt the operation immediately after delivery unless hemorrhage was so profuse as to endanger the patient's life.

DR. LUSK called attention to the fact that there were two kinds of rapid labor, one in which the os was undergoing an imperceptible relaxation for days or weeks, after which a few sharp pains would result in the speedy delivery of the child. In these cases lacerations were very infrequent. There was one other class of rapid labor, in which the pains began without this previous relaxation on the part of the cervix. Patients would from the very first bear down, and thus by a voluntary muscular effort force the head through the unprepared cervix, under which circumstances very bad lacerations were apt to occur. He called attention to the fact that in the use of the forceps traction should be made during the intervals of pain, and should cease immediately upon the beginning of pain.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, November 2, 1882.

THE PRESIDENT, EDWARD L. DUER, M. D., IN THE CHAIR.

DR. ROBERT P. HARRIS exhibited *Twenty-three Casts of Female Bony Pelves*, illustrating the varieties of deformity affecting labor. They were obtained in Paris, by Dr. T. Hewson Bache, for the Museum of the College of Physicians.

PURPURA HEMORRHAGICA.

DR. HENRY BEATES related the history of a child healthy for the first four months of its life, at which age it was attacked by thrush; ten days later an ecchymosis of purpuric character appeared on one leg, and a few days later spots of the same character appeared over the body; on the fifth day the stools were tarry, showing intestinal hemorrhage; the bronchial secretion was also stained with blood; on the seventh day a hemorrhage started from an abraided spot on the perineum; various local styptics were applied to this spot without result, until a red-hot needle was used as a cautery; on the tenth day a hemorrhage occurred from the canthus of one eye, and on the fifteenth day the child died from exhaustion. At the autopsy the internal organs were found quite exsanguine.

DR. BEATES also reported a case of

BURSTING PELVIC CYST.

The patient had been for some time in poor health. Nine months ago she observed a tumor in the right iliac region. On one occasion, after slight exertion she felt something give way; this was followed by intense pain and collapse. She recovered and has had no return of the tumor.

HEMORRHAGIC DIATHESIS.

DR. WM. SAVERY related the history of a boy, five years of age who had fallen and received a slight wound of the scalp from a nail sticking out of a post. It was a mere scratch, and did not need a stitch to hold it together, but it bled profusely. All sorts of domestic remedies, including cobweb, had been tried without avail. The doctor finally succeeded in arresting the hemorrhage with lint wet with Monsel's solution and continued firm pressure. A few days later the same boy fell off of one step on to the floor. There was no external wound nor loss of blood, but the side of the face was enormously swelled from hemorrhage into the tissues. A course of iron and tonics has improved the boy's appearance, but he is still pale.

DR. HARRIS inquired if there was any history of hemophilia in the family? Had the boy large knee-joints? There is a hemorrhagic diathesis entirely distinct from true hemophilia. The latter is rare in cities, but is more frequent in the country. The descent is through the females of a family but the disease appears only in the males; the Jews in certain districts of Germany present many examples. There is a remarkable family near Elkton, Md.

DR. SAVERY replied that there were no evidences of hemophilia in the family. The mother was pallid, had red hair, but did not lose much blood in labor.

DR. HORACE WILLIAMS had seen a case of obstinate and prolonged hemorrhage after the extraction of a tooth; it was finally stopped by fitting a cork into the alveolar cavity. An infant aged nine days was attacked with purpuric spots over the body and bleeding at the navel. To the latter were applied successively styptic colloid, tannin, Monsel's solution, Monsel's salt in powder, and finally transverse pins and figure-of-eight ligatures; but the bleeding reappeared as soon as the latter came away, and the child finally died from loss of blood.

DR. R. H. CLEEMANN had under his care a young man who had previously suffered from profuse hemorrhage for two days, consequent on the extraction of a tooth; the hemorrhage was finally stopped by Dr. Hartshorn, who plugged the cavity with a styptic. Dr. H. advised the young man never again to run the risk of a hemorrhage of any kind, as it would probably prove fatal. Recently he had been suffering from a toothache which nothing but extraction could relieve. Dr. Cleemann put him on gallic acid internally and tannic acid locally for two weeks before the extraction, which was accomplished without any unusual loss of blood. In a case of nasal hemorrhage, the anterior and posterior nares were plugged, but then ecchymosis appeared around the eyes and the plugs were removed; transfusion of a few ounces of blood was employed and the hemorrhage ceased and did not return; the patient died three months later of phthisis.

DR. E. L. DUER considered gallic acid a very valuable remedy for hemorrhage. He would like particularly to bring before the society, the old but neglected remedy, erigeron or flea-bane: the tincture and the volatile oil are very efficient when used internally to stop hemorrhage. The oil may be given in doses of ten drops every ten minutes until the bleeding is checked, after which it may be continued at longer intervals until the tendency has passed away.

DR. GITHENS had been using oil of erigeron for a number of years with remarkable success as an internal hemostatic. It was far more reliable than any other with which he was acquainted.

IMPERFORATE RECTUM.

DR. GITHENS reported an autopsy which he had performed that afternoon upon a baby aged twelve days, that had died from occlusion of the bowel. The anus was perfect, but as no meconium was passed, an examination of the rectum was made; the latter was found to be a cul-de-sac about one and a half inches in depth; as a tumid swelling could be felt above, a nick was made at the upper extremity of this cul-de-sac, and gas and meconium escaped; two days later it was found necessary to enlarge this opening, but at no time did any solid fecal matter pass, nor did the color of the milk appear in the feces. Death occurred from collapse from escape of the contents of the bowel into the peritoneal cavity. At the autopsy the rupture could not be found; the transverse colon was filled with well-digested milk; the upper part of the descending colon doubled sharply on itself and was bound down tightly to the posterior wall of the abdomen, there being no mesocolon on the left side; the lumen of the colon at this point was also obstructed by a hypertrophied fold of mucous membrane, which formed a septum reaching half across the colon, and had prevented the passage of the solid portions of the feces below that point; the rectum was distended with semi-liquid dark fecal matter.

A very remarkable circumstance in connection with this case is the fact that a former child of the same parents died at the end of the third day, there having been no discharge from the bowels, and the mother's aunt, on her mother's side, had lost five children out of seven, from the same cause; one of the five had been operated upon, but the condition returned after the lapse of six months.

The report of the *microscopical examination* of specimens presented at the last meeting by Dr. Wm. Parish, was made by DR. H. BEATES.

The specimen removed from the cervix uteri of case No. 2, is carcinoma of the encephaloid type.

The small tumors taken from the uterine cavity of

case No. 1, for the relief of continual hemorrhage, prove, on section, to be hyperplastic glandulæ utriculares, mucous membrane, and parenchyma. The intimate relationship of the uterine mucous membrane with the muscular structure is clearly shown, and the features of clinical interest in this instance well demonstrated. The mucous follicles or glands located on the free border in considerable number indicate that the growths originate from the fundus. The follicles are the seat of active epithelial proliferation and papillomatous degeneration, which latter process, it may be remarked, is *not* characterized by the regular relationship of cells to vessels seen in typical or benign papilloma, but by large multi-nucleated, irregularly shaped cells arranged in groups without any apparent regularity or system. This condition is strongly suggestive of carcinoma. The lesó-fibres are found to be infiltrated in many places by proliferated epithelium cells, showing that the morbid process involves the parenchyma.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, October 26, 1882.

THE PRESIDENT, JAMES TYSON, M.D., IN THE CHAIR.

HYPERTROPHY OF THE PROSTATE GLAND, ACCOMPANIED BY PROFUSE AND FATAL HEMORRHAGE.

The case was presented by Dr. J. B. Roberts for Drs. J. M. Adler and William Hunt.

The clinical history furnished by Dr. Adler is as follows: The patient, aged 66 years, of medium size, weighing 150 pounds, of regular habits, had enjoyed good health until within one year past. On a number of occasions during the past year he has had slight hæmatinuria. He passed his urine with ease, and only complained of slight perineal pain. On 12th of September last he arose in the morning in his usual health, but soon after breakfast he was attacked with sudden, acute pain in the bladder which he was unable to empty. Dr. Adler saw him in a short time, when the patient complained of great hypogastric pain and was much prostrated, with a blanched, sallow, cold skin, and a rapid and feeble pulse. A well-defined pyriform swelling occupied the hypogastric region, extending upwards to the umbilicus. After stimulants and morphia had been given, about one pint of fluid blood was drawn off by the catheter, after which, this instrument becoming blocked, a double one was introduced by means of which injections of warm water were thrown into the bladder, and another pint of broken-down coagula was removed. A solution of alum, 20 grains to the pint, was then introduced into the bladder and allowed to remain. Despite the internal use of ol. terebinth. and ol. erigeron., with opium suppositories, the hemorrhage continued, necessitating recourse to the catheter, injections, etc., to free the bladder from coagula. Death ensued on the sixth day from exhaustion induced by the repeated hemorrhages. The diagnosis arrived at by Drs. Hunt and Adler was carcinoma of the neck of the bladder.

Sectio cadaveris: The autopsy was a partial one, made in the undertaking establishment. Upon incising the hypogastrium, the distended bladder was at once seen, containing nearly a pint of clotted blood. This was removed by the hand through an opening in the viscus, when Dr. Roberts felt near the vesical neck, protruding into its interior, a pear-shaped mass, about the size and shape of the adult uterus. This, as the members of the Society saw, was evidently a greatly enlarged middle lobe of the prostate gland covered by unaltered mucous membrane. The lateral lobes were also enlarged. The mucous lining of the viscus was smooth and congested, presenting at one point two small circular depressions with clearly cut edges. Owing to circumstances, no further examination of the body was made.

DR. ESKRIDGE inquired whether the blood removed from the bladder at the autopsy presented an urinous odor. He had treated recently an interesting case of recurring hæmaturia, supposed to be due to a varicose condition of the veins of the vesical neck. The patient was a man æt. 77 years, who five years ago, and at intervals since, had lost considerable blood. The former attacks had yielded readily to ergot, but shortly after the onset of the last one, Dr. Eskridge had found the bladder distended with a large clot which he had been unable to break down by either alkaline or acid solutions. The secretion of urine was suppressed during the last twenty-four hours of the patient's illness, the blood drawn from the bladder presenting no characteristic odor. The man died apparently from uræmia, two or more severe chills preceding death, although no convulsions occurred, and he remained conscious to the last. Unfortunately, no post-mortem examination was obtained.

DR. FORMAD thought that the growth resembled rather a sarcoma than a carcinoma. He had seen two instances of round-celled sarcoma of the prostate. All growths starting from the epithelia of the genito-urinary tract, as well as from the cavity of the uterus, the kidneys and supra-renal bodies; in short, growths of all the organs arising from the middle layer of the blastoderm microscopically resemble sarcoma, and usually prove to be such when microscopically examined.

DR. TYSON said that this specimen possessed a special interest for him, inasmuch as he had had his attention forcibly directed to the differential diagnosis of a simple hypertrophy of the prostate from malignant disease of that organ, by having lately under his care a gentleman where ergot at first proved of much benefit, but in whose case the catheter was soon demanded. This instrument was used with unusual skill and gentleness by the patient himself, notwithstanding which blood occasionally followed its use. Exceedingly severe pains next developed, radiating from the bladder to the testicles, groins, and inner aspects of the thighs. Emaciation soon set in, and he died at the end of 15 months. At the autopsy malignant disease of the prostate was found, involving by infiltration the lateral aspects of the bladder and the neighboring parts so as to compress the nerves, thus accounting for the radiating pains complained of. He would like to know from Dr. Roberts whether his case presented this symptom of radiating pains, and also the source of the hemorrhage, as the smooth surface of the growth and the healthy condition of the mucous membrane of the bladder are such as to excite surprise.

DR. ROBERTS, in reply to the various questions propounded, said that only having made the post-mortem examination, he knew nothing beyond the facts given in the notes read. As to the source of hemorrhage, he would call attention to the two small erosions of the mucous membrane of the bladder as the probable source.

Report of the Committee on Morbid Growths: The specimen presented by Dr. Roberts, upon microscopic examination, is found to consist of the histological elements composing the prostate gland. There is no evidence of any neoplasm, except a numerical hypertrophy of the structures of the organ. The specimen is an hypertrophic prostate gland.

CASEOUS DEGENERATION OF THE KIDNEYS

presented by DR. J. B. ROBERTS for Dr. Dunmire. Owing to Dr. Dunmire not having seen the woman until within a few hours of death the history is of necessity imperfect. She was a married woman 39 years old, whose husband

is said to have infected her with some form of venereal disease. The husband had been dead for about one year when the patient first came under treatment. There were no evidences of syphilis, so that the supposed venereal affection of the past had been presumably gonorrhœa. When seen September 14, 1882, was exceedingly ill, gave a history of general ill health for the past few years, but dated the present trouble some weeks back when she had bathed in the surf while menstruating. This was followed by a chill, since when she had steadily grown worse. When Dr. Dunmire saw her, she complained of sore throat, difficult deglutition, anorexia, sick stomach, pain in the back, with sharp pain running towards the groin, especially on the right side, tenderness over the abdomen, and frequent scanty micturition. The pulse was 140, the temperature 103°, and there was profuse leucorrhœa. An unfavorable prognosis was given, which was soon verified by her becoming unconscious and dying six hours later.

Autopsy: The abdomen alone was allowed to be examined. All organs healthy except kidneys and bladder. The latter contained a little urine and mucus, its walls were much thickened, and its lining membrane was congested. The left kidney had little true kidney structure left, but was converted into a group of seven or eight cysts containing a white cheesy material of a moderately firm consistence. The ureter was much dilated and thickened for about three inches from the pelvis of the kidney. The right kidney was normal in outline, but when incised revealed one large cyst with creamy contents, and also another small cavity containing a few minute calculi. Several of these could be felt through the walls of the normal ureter, thus accounting for the ante-mortem renal colic. The perinephritic structures were unchanged, as well as the capsules of the kidneys, although these latter were perhaps more adherent than normal.

TUMOR OF THE MEDIASTINUM

exhibited by Dr. W. S. LITTLE for Dr. G. C. Smith, of Rondout, New York.

The history of the patient from whom these specimens were removed is in brief as follows: A young man æt. twenty-four years, had been but a few days under Dr. Smith's care, having come from Boston, where his physician had pronounced him phthisical, and had recommended a sea voyage. During the past few months small nodular masses had developed in the muscular tissue of the right chest-walls, near the median line in front, and also posteriorly. The axillary and supra-clavicular glands were involved. Shortly after Dr. Smith first saw him he developed marked dyspnœa, and died suddenly, without any evidences of marked lung disease, except, perhaps, some symptoms of pleuritis. There was apparently mitral disease. Anasarca, especially of the lower extremities, gradually developed.

Sectio cadaveris: The skin was hard and friable; nodular masses were found disseminated through the muscular tissue of the chest-walls, which had undergone some species of degeneration; the costal cartilages presented evidences of a degeneration similar to that seen in the muscle. On removing the sternum, the subjacent tissues were markedly pigmented, and the anterior mediastinum completely obliterated by a mass of the size and shape of the half of a large lemon, which pressed against the heart. The large bronchi were involved in the growth, otherwise the lungs seemed healthy, and evidences of slight pleurisy were found. The pneumogastric nerves were both involved, chiefly the left, and on further dissection the disease was found to occupy all of the lower part of the posterior mediastinum, involving the contiguous osseous tissues. The nerve involvement explains the sudden death. The diaphragm was also involved in the lower portion of the growth. The four portions of the growths shown to the Society are, 1st. One of the subcutaneous nodules; 2d. A small portion of the left lung, near its root; 3d. A portion of the anterior mediastinal growth, with part of trachea, bronchi, and aorta; 4th. One-quarter of the tumor, which involving the diaphragm, projected from the left thoracic wall into the chest cavity.

Dr. Formad inquired whether there were any other evidences of cancer in the remainder of the body.

Dr. Little replied that none were detected.

Dr. FORMAD said that he was unaware of any specimen of primary carcinoma of the mediastinum on record, and moved the reference of the specimen to the Committee on Morbid Growths, as it was probably a sarcoma.

Report of the Committee on Morbid Growths: "The mediastinal growths are found on microscopical examination to consist of a mass of hypertrophic lymphatic glands, much pigmented. There are also seen adipose and fibrous tissues in a state of active proliferation."

CIRRHOSIS OF LIVER IN THE STAGE OF ENLARGEMENT

exhibited by Dr. E. T. BRUEN. F. W., aged 20 years, colored, has worked on farm since boyhood, and has been much exposed to weather. His habits were temperate, he was free from either syphilitic or malarial taints. Father is still alive, the mother died of phthisis. He was never robust, but had had only one severe illness, viz., typhoid-fever, from which he convalesced perfectly, but he readily "took cold." He was first seen by Dr. E. T. Bruen, at the University Hospital, in January, 1882, when he gave the following history. Abdomen began to swell two years ago with neither pain nor tenderness. Was obliged to rise at night to urinate. As abdominal swelling increased and the previously regular bowels became constipated; occasionally sharp, shooting pains were felt across the chest when lifting weights, or working hard, and also slight dull pains over liver, lasting for a few moments only. When seen, abdomen measured 50 inches. On 19th of January, he was tapped, 19 quarts of fluid being removed, rendering plain a much enlarged liver, covered with smooth nodular elevations, with the apex beat of the heart displaced upwards into fourth interspace. March 18th, five gallons more fluid were removed, after which pleural and bronchial complications arose, which soon subsided. May 6th, paracentesis by capillary needle was resorted to, which was followed by much localized tenderness around the site of the puncture, and peritonitis set in, which terminated life the same evening. During life the diagnosis was most difficult and interesting, the enormous size of the liver, the palpable bossellation of its surface, giving a sensation like that of crepitating tissue, as though fluid lymph had been thrown out, and finally his abstemious habits, with absence of either syphilitic or malarial taint, suggested malignant disease. His age, the excessive rarity of primary carcinoma, or sarcoma of the liver, with his family history all negatived this view. He had had some dyspepsia; enlargement of the liver connected with catarrh of bile-ducts, would have presented symptoms of jaundice and intermitting temperature, terminating by death from cholesteremia. The case then was one of simple cirrhosis.

Sectio cadaveris: The abdomen contained six gallons of purulent fluid. Both the parietal and visceral peritoneum were covered with a thick coating of inflammatory lymph tinged with blood, from multiple capillary hemorrhages. The abdominal veins were all replete with blood. The liver weighed nearly 5½ pounds, was of a nutmeg appearance, on section was indurated, and presented a bossellated nodular appear-

ance. The gall-bladder was thickened and contracted about two-thirds in bulk. Bile-ducts were normal, the spleen was covered by a pseudo-cartilaginous capsule, but was otherwise normal, as were also the stomach, pancreas, intestines, kidneys, and supra-renal bodies. The abdominal lymphatic glands were slightly enlarged.

DR. SEILER remarked that, having seen the case during life, it was almost impossible to divest one's self of the idea of malignant disease. He thought that the projections were unaltered portions of the liver, which had been compressed and squeezed out by the contracting interstitial tissue.

Dr. Bruen remarked upon the obscurity of the etiology.

DR. TYSON asked Dr. Formad, who had examined the specimen microscopically, whether he considered it to be in the first or second stage of the affection.

DR. FORMAD replied that he considered it to be in the commencing second stage, and detailed the microscopical appearances.

DR. TYSON, after briefly adverting to the causation of cirrhosis, said that his reason for asking Dr. Formad whether he considered that the organ was in the first or second stage of cirrhosis was, that some few years since an important insurance case had been argued in our courts where the defence was set up that the man had not a cirrhosed liver because it was enlarged. For his part he had no doubt that a liver could be in the second stage of cirrhosis and yet be enlarged; there might be enlargement from fatty infiltration concurrent with interstitial inflammation.

CORRESPONDENCE.

THE NON-IDENTITY OF CROUP AND DIPHTHERIA.

To the Editor of THE MEDICAL NEWS.

SIR: In your issue of October 21, there appeared a lecture delivered by Dr. Morell Mackenzie, of London, at Bellevue Hospital Medical College, on "Diphtheria." In that lecture the learned Doctor pronounced croup and diphtheria one and the same disease. This is an utterance *ex cathedra*, and deserves more than passing notice.

I do not think that the *ipse dixit* of this distinguished authority is sufficient to establish his doctrine of identity in regard to those hitherto considered separate diseases. But he goes farther, and states: "I believe though, after all, it is a mere theoretical question." I think it is very much more, not as far as the medical treatment is concerned, but it is of very great importance in regard to the question of contagiousness.

Diphtheria has been regarded as a most contagious disease. Croup has not been so regarded. In the one case it has been the rule to isolate the patient, quarantine the family, and exclude the other children, if there any, from the public schools for a certain specified time. In the other case there has been no isolating, no quarantining, or limitation of personal freedom. If these diseases are identical, why this exhibition of inconsistency, why this wanton trifling with human life in the neglect of proper precautionary measures? If the members of the medical profession are to be regarded as the guardians of the public health, this question of the identity or non-identity of these diseases is of much more importance than a merely "theoretical question."

During an active practice of twenty years I have had quite a number of cases of membranous croup under my care. During ten of these years there has not been one case of diphtheria in the district, yet during these years an occasional case of true croup would appear, and in none of them was any attempt ever made to prevent the spread of the disease. Yet no second case ever occurred in the same family, nor were any other members of the household afflicted with sore throat of any kind near the time when the cases of croup arose.

In some of the cases that proved fatal, there were quite a number of other little children in the same family. These had constant access to the bed of the suffering one, and after death for two or three days, while the body remained in the house, these little ones would hover around where it was lying, and many fond kisses were showered on the loved form, and yet I have never had a second case in the same family. On the other hand, I have had cases of diphtheria when every effort was put forth to prevent the spread of the disease, and while I might now and again succeed, yet in the large majority of cases the disease would spread in the face of all that I could do.

Now with facts such as these before me, and my experience does not differ from that of many others, is it any wonder that without something more than mere assertion I should still very respectfully maintain that croup and diphtheria are *two* and distinct diseases, the one a highly contagious disease, the other not in the slightest degree contagious.

In order to save the profession from well-merited reproach on account of so much diversity of opinion on this subject cannot a Medical Commission be appointed to deal with this matter and to arrive at some definite finding?

I remain, yours respectfully,

A. D. MACGILLVARY, M.D.

SYDNEY, C. B., NOV. 1, 1882.

PULVERIZED BORACIC ACID.

To the Editor of THE MEDICAL NEWS.

SIR: Boracic acid has of late come into such repute as a topical dressing in the treatment of otorrhœa and kindred catarrhal affections, and as the best results follow its use in a pulverulent state, it may not be amiss to state a method by which it may be reduced to a powder.

A few moments' trituration of a small quantity of the acid will prove to the most experienced the futility of the present method.

When our attention was first directed to the subject, we adopted the plan of heating the acid in an evaporating dish, stirring continually, until it assumed a granular state, or in other words became partially decomposed into boric oxide by loss of water. If at this time a small quantity of water was added, and the mass allowed to stand for an hour or more, the partially decomposed acid resumed its original state, but when dry in an impalpable powder. The method, however, was expensive, as a notable per cent. of the acid was lost by volatilization.

Further experiment showed that trituration while moistened with water was all that was needed to reduce it to a pulverized condition, although not as fine a preparation as that by the former method. The operation is facilitated by removing from time to time the finer portion by means of a bolting cloth—the face cloth on Mead's adhesive plaster answers nicely. The use of aromatized water adds to the elegance of the preparation.

I am, sir, yours, etc.,

GRANVILLE FAUGHT.

142 N. FIFTEENTH ST. PHILADELPHIA.

NEWS ITEMS.

CHARLESTON.

(From our Special Correspondent.)

DENGUE OR BREAKBONE FEVER is again present in this city. It began to be recognized by the physicians here about six or eight weeks since. It has prevailed pretty generally, and we will look with interest to see what influence ice has upon it. Dr. Thomas, of Savannah, in a contribution on "The Dengue of 1881," to the *Transactions of the Public Health Association* (vol. vi.), contends that frost and ice did not destroy the disease in Savannah. Our observations here are to the effect that no greater proportion of cases occur after the advent of frost than we find after the similar prevalence of an epidemic of yellow fever.

The present epidemic of dengue is comparatively mild, though pretty generally diffused. There is the characteristic and marked features of pain and fever. The latter often continues for from two to six days, accompanied often by eruptions and headache. It is often ushered in by an ague or by chilly sensations, and very seldom, as far as our experience extends, by the presence of swelling of the joints, by boils, or, in the case of females, by miscarriages or hemorrhages.

We think that a malarial element seems clearly marked in most cases—there being regular intermissions—the fever appearing and disappearing from time to time. There are no catarrhal symptoms or other signs of influenza. The prostration is not nearly so great as in previous epidemics. This city has been otherwise remarkably healthy, scarlet fever and diphtheria having apparently disappeared from the bills of mortality. As respects treatment, we find that the disease readily yields to alkaline fever-mixtures, cold sponging of the head, hands, and arms, hot mustard pediluvia and quinia given during the intermissions. Opium does not seem to have been required. The pain is relieved by hot mustard baths. The following fever-mixture has been found efficacious here:

℞—Acetate of potash,	ʒij.
Spirits of nitrous ether,	ʒij.
Liquor ammoniæ acetatis,	ʒj.
Muriate of ammonium,	ʒj.
Water,	ʒiv.—M

S.—A teaspoonful every two or three hours, when there is fever adding one or two drops of tincture of root of aconite to each dose.

The period of incubation in dengue may be as short as three or four hours—much less than was reported in a paper in the recent issue of the volume of *Transactions of the South Carolina Medical Association*. Both Dr. Wragg and Dr. Wappold mention a few hours as the incubation period in their sketches of earlier epidemics of dengue here, published in vol. vi., 1881, of the *Charleston Medical Journal and Review*. This also agrees with our own experience of former epidemics.

MONTREAL.

(From our Special Correspondent.)

MONTREAL MEDICO-CHIRURGICAL SOCIETY.—At the annual meeting the following gentlemen were elected officers for the ensuing year:

President.—Dr. Kennedy.

Vice-Presidents.—Dr. G. Roddick; Dr. Rodgers.

Secretary.—Dr. Henderson.

Treasurer.—Dr. Molson.

Librarian.—Dr. Gurd.

Council.—Drs. F. W. Campbell, Osler, and George Ross.

THE LATE DR. A. H. DAVID.—The death, in this city, on November 5, of Dr. A. H. David, aged seventy years, removes almost the last survivor of the older generation of practitioners in Montreal. Born in this city, in 1812, he was educated at McGill College, and afterwards at the University of Edinburgh, where he graduated in 1835. Returning to Canada he practised for some years at Three Rivers, but since 1844 has been a resident of Montreal, and an active and zealous member of the profession. In 1852 he edited, with the late Dr. R. L. Macdonnell, the *Canada Medical Journal*, which was discontinued after the first year. About the same time he participated in the establishment of the St. Lawrence School of Medicine, which only held two or three sessions. In 1870 he, with others, established the Medical Faculty of Bishop's College, in which he was the Professor of the Practice of Medicine, and was the Dean almost from the inception of the school. He was the General Secretary of the Canada Medical Association from its foundation until last year, when serious illness compelled him to retire. Dr. David was President of the Natural History College of Montreal, and Governor of the College of Physicians and Surgeons of Lower Canada, and was Corresponding Member of the Literary and Historical Society of Quebec, Extraordinary Member of the Royal Medical Society of Edinburgh, Corresponding Member of the Gynecological Society of Boston, Member of the British Association for the Advancement of Science, and Member of the American association for the same. For more than two years he suffered with cancer of the rectum, and bore his painful illness with remarkable fortitude and resignation.

PROGRESS OF THE YELLOW FEVER.—The following reports of cases at *Brownsville, Texas*, for the period ending *November 6, 1882*, have been received by the United States Marine-Hospital Service:

	Cases.	Deaths.
Week ending Nov. 4, 1882,	23	0
November 5 and 6, 1882,	4	1
Total number since first appearance,	2004	115

One case at Point Isabel, November 4.
Seven deaths at Camargo, Mexico, November 3.
Eleven deaths at Mier, Mexico, November 2 and 3.

Pensacola.—The sudden decrease in the number of cases reported from Pensacola during the course of this week evidently indicates an interference with the spread of the infection by meteorological or other incongenial influences rather than the exhaustion of the susceptible material among the inhabitants. The daily reports to the National Board of Health have been as follows:

Dates.	Cases.	Deaths.
October 31,	7	4
November 1,	11	0
" 2,	7	1
" 3,	9	2
" 4,	10	2
" 5,	15	0
" 6,	6	1
	65	10
To October 30,	2178	175
Total reported to date,	2243	185

The investigation into the origin of the epidemic undertaken by the National Board of Health appears to meet with obstacles at every point. First, Major Walthall, who was expected to prosecute this inquiry, found it impossible to spare the necessary time, from more urgent duties in connection with the sick of the

city, and now Dr. Martin, U. S. N., who, after much and troublesome preliminary investigation, had just begun to feel that he was on the right track, is prostrated by the fever. He was taken sick on the 2d inst., but is progressing favorably under the care of Dr. Hargis, president of the Board of Health of the city. It is understood that Dr. Martin proposed to devote some attention to the history of certain "second attacks" which had been reported in Pensacola. Inasmuch as his own case comes under this category as well, we believe, as that of his attending physician, who has but recently recovered, he will be able to speak *ex cathedra* on this subject.

The navy yard continues free from fever by virtue of its *cordon sanitaire*, notwithstanding that it has been for so long within sight of infected localities. Dr. Owen must feel gratified not only that his seventeen hundred people have been saved from infection and its dangers but that a demonstration has been given as well of the non-indigenous nature of the disease as of the necessity for a less subtle medium of communication than is afforded by the air. But although the yard and its dependencies have been preserved from yellow fever, a febrile epidemic of another color has been rife during the past few weeks. How the infection was introduced is unknown, but since the cordon was established and all communication with the outside world cut off scarlet fever of the anginose variety has appeared, and thirty-eight cases have been reported. Many unreported cases are presumed to have occurred.

THE RICHMOND COUNTY (N. Y.) MEDICAL SOCIETY AND THE NEW YORK CODE.—The following resolutions have been adopted by the Richmond County (N. Y.) Medical Society:

Whereas, The By-Laws of the American Medical Association exclude from representation any State or local society which disregards its Code of Ethics; and

Whereas, The Richmond County Medical Society has bound its members to observe the said Code; therefore

Resolved, That the Richmond County Medical Society repudiates the action of the Medical Society of the State of New York, in adopting the second section of the recently promulgated amendment to the Code of Ethics, and that our delegate at the next session of the State Medical Society be instructed to urge the rescindment of such action, which this society regards as subversive of the dignity and true interests of scientific medicine; and in the event of a reconsideration being refused, to withdraw from the State Society.

Resolved, That a copy of this resolution authenticated by the signatures of the President and Secretary be forwarded to the Secretary of the American Medical Association, to the Secretary of the State Medical Society, and to such medical journals as the President may designate.

THE NEW YORK COUNTY MEDICAL SOCIETY AND THE NEW YORK CODE.—The New York County Medical Society has elected a delegation to the New York State Medical Society which is understood to be pledged to vote to maintain the new Code.

THE RIGHTS AND DUTIES OF DELEGATES.—The *Detroit Lancet* (November, 1882) is "astonished that so wise a man as Dr. Jacobi, and such an able journal as the *Medical Record*, should recommend that delegates should pay no heed to the wishes of the county societies which shall send them to the next meeting of the New York Medical Society. The *Record* thinks that no delegate will forego his personal rights at the dictation of the society he is chosen to represent. It claims that each delegate has such a right as will permit him to violate the trust imposed in him by the society that he has engaged to represent. It is vain to say that the several societies do not fully understand the question of ethics as involved in the action taken last winter. When thus understanding it and when they select a delegate who accepts the position, they can expect nothing but that their wishes will be carried out by their delegate's voice and votes in the convention. The advice of the eminent gentlemen to the New York county delegates seems to us in the highest degree dishonorable. Evidently they do not think that the county medical societies of New York are giving their delegates proper instructions, since almost all thus far heard from have very positively signified their repudiation of the ethical code inaugurated at the last meeting. If the matter related to politics, the natural inference would be that while the leaders of the New York State Society felt able to deal with individual delegates after they had manipulated them at Albany, they were impotent to manipulate the several societies that really constitute the profession of the State. But of course, among medical men, in a matter such as the one before the profession of the Empire State, bribery or bulldozing of the delegates is impossible. We still believe that no honorable man will violate the instructions of the society sending him. His course is plain. If he does not think the wishes of his society are such as he can honestly endorse, he will at once resign his appointment, in order that the society may appoint such a one as will execute their will. In this manner all have perfect freedom to act, and speak, and think, and vote, as seem to them wise. The question in all possible relations has been discussed. What now remains is the voting. Let this be done fairly by all the county societies and we shall know the status of the medical profession of New York."

NATIONAL BOARD OF HEALTH.—The President has appointed George E. Waring, Esq., of Newport, R. I., a member of the National Board of Health, in place of Dr. Charles F. Folsom, of Mass., resigned.

MEDICAL POLYCLINIC OF THE NORTHEASTERN DISPENSARY, NEW YORK.—Arrangements have been made by which the Northeastern Dispensary of New York has been thrown open for the benefit of medical students and physicians; clinical instructions will be given to classes in gynecology, eye, ear, and throat diseases, skin diseases, nervous diseases, and diseases of the heart and lungs.

TRAINED NURSES.—The first annual commencement of the Brooklyn Training School for Nurses was held October 2d, in the City Hospital.

Mayor Low presided, in behalf of the president of the Board of Managers, Mrs. Seth Low, and after making a brief speech, in which he alluded to the success of the school, presented the diplomas to four graduates.

Dr. Joseph C. Hutchinson, who represented the City Hospital, delivered the address to the graduating class. He was followed by Dr. Benjamin F. Westbrook, who said that the ambulance surgeon reported that nearly all the victims of accidents or injuries coming under his observation had expressed their desire to be taken to the hospital where there were lady nurses. This the speaker considered a high tribute to the assiduity, watchfulness, and fidelity of the ladies who had graduated, and the best testimonial of the value and importance of a school which should furnish a proper system of education in training noble women in the duties of ministering to the invalid and afflicted.

At the close of the exercises in the hospital proper,

an adjournment was taken to the Nurses' Home, formerly the Orthopedic Dispensary, which was opened to the public for the first time. The building has been thoroughly reconstructed in the interior, and comfortable rooms have been fitted up for the thirty-one young ladies who now constitute the class of students.

DR. LUSK'S MIDWIFERY.—The *Medical Times and Gazette* for October 21, 1882, carefully reviewing Lusk's *Midwifery*, concludes, as follows:

"We thank Dr. Lusk for his most valuable work, which is, in our opinion, as we have said before, the best representative of the state of obstetric science and art at the present day that exists in the English language."

GRANT TO M. PASTEUR.—The French minister of agriculture has placed 50,000 francs at the disposal of M. Pasteur to enable him to continue his investigations on the contagious diseases of animals.

THE WARREN TRIENNIAL PRIZE.—The Warren Prize Committee offer a premium of $400 for the best dissertation worthy of a prize, upon the following subject:

"CHRONIC BRIGHT'S DISEASE (parenchymatous and interstitial nephritis). The nature and mutual relations of the derangements in the circulatory and secretory organs."

Dissertations should be forwarded to the resident physician, Massachusetts General Hospital, Boston, on or before February 1, 1883.

WESTERN MEDICAL CLASSES.—The Rush Medical College of Chicago, is said to have opened this term with a class of 470; the Chicago Medical College with 150, and the new College of Physicians and Surgeons of Chicago with over 100.

MEMORIAL TO THE LATE PROF. BALFOUR.—A meeting has been called in Cambridge to take steps as to the establishment of some memorial to the late Prof. F. M. Balfour. The vice-chancellor of the university announces that the family of Prof. Balfour has presented his scientific library to the university for the use of the Morphological Laboratory.

BALTIMORE EYE, EAR AND THROAT CHARITY HOSPITAL.—This institution is now open for the reception of patients. The attending medical staff is composed of specialists in the different branches indicated in the title, and the design of the institution is to furnish skilful medical and surgical treatment, and, where necessary, hospital accommodation for the indigent poor suffering from eye, ear, and throat diseases.

Connected with, and forming an important feature of, the hospital, is an *out-door department, or dispensary*, which is under the charge of the hospital medical staff. Clinical instruction and demonstration of cases will be given daily by the members of the medical staff.

RESIGNATION OF DR. O. W. HOLMES.—Though it has been for some time asserted that Dr. Oliver Wendell Holmes contemplated resigning the Chair of Anatomy in the Harvard Medical School, no definite announcement of the fact was made to the public until last week. At the request of the officers of the board of government, the resignation will be permitted to remain in abeyance until satisfactory arrangements can be made for permanently filling the vacancy, and for the present the Doctor will continue with his lectures to the first class of the school, which is the only one that comes under his department of instruction. His retirement is not enforced by ill-health or the inaptitude sometimes incident to increasing years, but is induced by his desire to give attention hereafter more particularly to literary pursuits. This decision on his part, while reluctantly consented to by the college authorities, will doubtless be viewed with complacency, to say the least, by the general public, who will argue that, while the technics of anatomy may be taught by another, there can be but one Dr. Holmes in literature. That his professional career has been one of great ability and usefulness, its continuance through a period of thirty-eight years proves. When Dr. Holmes was appointed to the office in 1847, it was known as the Parkman Professorship of Anatomy and Physiology. This title was retained until a date early in the administration of President Eliot, when the system of instruction here, as in some other departments, was expanded, and two professorships, one of anatomy and one of physiology, were established. For the former, Dr. Holmes was retained. Dr. Holmes's instructions have generally been given in the form of extemporaneous lectures, illustrated by anatomical preparations, models, pictures, and diagrams. In exceptional cases written lectures have been prepared. His professional literary labors have not been limited to these discourses, however, but have been productive of numerous contributions to the medical journals, occasional addresses before assemblies of medical men and a few published volumes. A nearly or quite complete list of these is, "Boylston Prize Dissertations," "Currents and Counter-currents," "Border-lines of Knowledge in Medical Science," and "Mechanism in Thought and Morals." The list of non-professional volumes which have been prepared, or which, at least, have served so well, as mental tonics, stimulants, and alteratives for the many who have eagerly purchased them, can be recited by anybody: The "Autocrat," the "Professor" and the "Poet at the Breakfast Table," "Elsie Venner," "The Guardian Angel," "Essays from the Atlantic Monthly," and one or two volumes of poems. As a labor of love, a memoir of John Lothrop Motley has been prepared and published in a handsomely bound and printed volume. In laying aside the gown of the professor, Dr. Holmes gains a well-earned exemption from hard work, and all will join in the wish that the pleasures of his literary "vacation," now about to begin, may be many and long-continued.

THE COMPLAINT AGAINST THE NEW YORK CREAM OF TARTAR WORKS DISMISSED.—Health Commissioner Raymond, of Brooklyn, has dismissed the complaint against the New York Cream of Tartar Works on Kent Avenue. In his decision he says: Whether the odors complained of constitute a nuisance in the eye of the law is a question which has not been and cannot be submitted to any decision of mine. The question is solely whether the health of so large a number of persons has been affected as to warrant a declaration that the public health is endangered, for to this the law confines the Board of Health, acting under the section already quoted. That this claim is not substantiated by the evidence there is, I think, no doubt, and that such danger is not likely to follow in the future, appears from the testimony, some of which I quote. Professor Henry Morton testified that the material used has no unhealthful properties, and that there is nothing in the process which is unhealthy; that no poisonous acids or unhealthy vapors get into the air; that there are no vapors which escape in the process which do not first escape into the building where the employés are at work, and thence into the air. Professor S. G. Armor testified that he examined these employés, and pronounced them healthy-looking men. Nor does it appear in the testimony that there has been any sickness

among the factory hands attributable to the vapors complained of. Dr. Joseph C. Hutchison testified that the odors and vapors which escape from the factory are neither poisonous nor unhealthful, and that some of them would have quite the opposite effect upon the atmosphere, and tend to purify rather than otherwise. The testimony of Dr. S. Fleet Speir is to the same effect in regard to the absence of detriment or danger to health from these vapors and odors. After a full and careful consideration of all the testimony in the case, I am compelled to decide that the business complained of is not detrimental or dangerous to the public health, within the meaning of the statute.

The Office of Assistant Surgeon-General.—The Attorney-General has just submitted an opinion to the Secretary of War to the effect that a vacancy in the office of Assistant Surgeon-General can be filled by the appointment of any surgeon with the rank of colonel, or it may be filled by appointing thereto the senior officer in the medical corps having the rank of lieutenant-colonel, which is the next grade below. The latter officer is, by the rules of promotion in the military service, entitled to the vacancy existing in the grade to which the office of Assistant Surgeon-General belongs.

Bequests to Medical Charities.—The late Jerome G. Kidder, Esq., of Boston, has bequeathed $50,000 to the Boston Lying-in Hospital, and $25,000 to the Massachusetts General Hospital.

Mr. Francis Seymour Haden, of London, and member of the Royal College of Surgeons of England, has just arrived in this country. In addition to his surgical attainments, Mr. Haden is an etcher of considerable reputation, and comes to this country to lecture in the principal cities on art subjects.

Holy Water.—The *Chemical Review* states that recent analysis of the water from the Holy Well at Mecca, which is so eagerly drunk by pilgrims, shows this water to be sewage, about ten times stronger than average London sewage.—*Lancet*, October 21, 1882.

Isolation of Cases of Contagious Disease in School Children.—The French Minister of Public Instruction has addressed a circular to the editors of the French Medical Journals asking their assistance in urging the universal adoption of the rules drawn up by the committee of the Académie de Médecine as to the time children should be kept from school after exposure to contagious disease; these rules have been already published in The News for August 12th.

The New Obstetrical Institute of Vienna, already mentioned in our columns, will open at the end of this month instead of on Sept. 1st, as previously announced.

Samaritan Schools.—Professor Esmarch, the well-known surgeon of Kiel, recognizing the advantages of immediate attendance in cases of accidents, has instituted a number of schools in that city which are called Samaritan schools. They are composed of youth of both sexes, who are so instructed that in case of accidents they can render every assistance necessary until the arrival of the physician. Professor Esmarch has written a small work upon the subject, in which he explains the various means to be employed under such circumstances. The scholars are instructed upon the formation of the bones and action of medicines in a few hours. In consequence of the success which has attended these schools, the Professor has visited Berlin for the purpose of introducing the system there. Eight schools, of 40 students each, have been established in that city. Many of the most prominent physicians lecture and give demonstrations upon the structure of the human body. An important feature of this innovation is the enrollment of a portion of the police force among the scholars. It may be supposed that a policeman thus trained will be able to distinguished between cases of illness and intoxication, and not take victims of the former to the lock-up, as sometimes has happened. —*Boston Journal of Chemistry*, November, 1882.

The Evil Effects of Badly Made Shoes.—At a recent meeting of the Hygienic Congress at Geneva, Colonel Ziegler, who is chief surgeon of the Federal Army, read a paper on the evil effects of badly made shoes, with special reference to hygiene and the marching powers of soldiers. Colonel Ziegler mentioned that the Swiss examining surgeons are compelled to reject every year 800 recruits—the strength of a battalion—for malformation of the feet, resulting from badly fitting shoes. The foot is in reality a bow, so elastic that at every step it contracts and expands, lengthens and shortens, and a line drawn through the centre of the great toe intersects the heel. But shoemakers, who are generally utterly ignorant of the anatomy of the foot, do not give room enough for the lateral extension of the great toe. They crib, cabin, and confine it until it is forced against the other toes. Hence arise frequent inflammations of the great toe, corns, ulcerations, and sometimes veritable articular inflammation. Another evil, which Colonel Ziegler ascribes in great measure to bad shoeing, is flat-footedness, whereby the arch is converted into a straight line, and prolonged walking and marching rendered impossible. Another cause of this defect is the habit of carrying heavy weights at an early age; but in most instances, Colonel Ziegler contends, perfect shoes would restore the foot to its normal condition. The first obstacle to a reform in the shape of shoes lies in the fact that it would involve a great expense in the shape of new lasts, an expense that shoemakers are naturally loth to incur. Fashion has also its lasts, and shoemakers consider themselves bound to conform to the prevailing mode. A test of a perfect pair of shoes is that, when placed together, they should touch only at the toes and the heels; the soles should follow the sinuosities of the feet, and to give room for their expansion should exceed them in length by fifteen to twenty millimetres.

The Treatment of Hysteria by Metallo-therapy.—One of our indefatigable German *confréres* contributes in the *Archiv für heitere gynäkologie* the following instance of such successful treatment of this rebellious disease that we deem it worthy of notice. Marie O., a chamber-maid in the house of a Privy Councillor in Berlin, was compelled, among various other laborious duties, to light to the door the numerous guests who visited the house nearly every evening. The reporter had occasionally opportunity (she was charming, and nineteen years old) to notice how she comported herself to the visitors who attempted to call a smile to her lips by liberal "trinkgelder." This however, was no easy task: on account, probably, of some anomaly of menstruation, she was hysterical, apparently; always solemn, almost melancholy in her bearing; sometimes he even thought he saw tears in her eyes. This case of hysteria, thus clearly made out, seemed to him in every way suitable for the study of the influence of metals on the psychical state, and the reporter determined at the next evening reception to which he was invited to institute some experiment on this point. Accordingly he posted himself behind her

as the guests passed out in leaving the house: when nickel, copper, or silver in pieces of small circumference came in contact with her beautiful hand, the melancholic condition remained unaltered, became even indeed painfully exaggerated. A larger piece of silver, apparently about as large in size as a five-mark piece, seemed reflexly to call forth some transitory improvement. Suddenly, however, as a handsome young baron passed before her and with a meaning look pressed something into her outstretched hand, he believed that a complete cure had been accomplished; he looked closer—it was a gold ten-mark piece.

The above case is reported as showing the comparative value of gold and other metals in the treatment of hysteria; it would seem that, to be equally efficacious, silver must be applied in larger quantities than gold.

TOY-PISTOLS.—The report of the State Board of Health of Wisconsin for the current year gives the following information concerning this dangerous plaything: About the 4th of July last many accounts appeared in the columns of the public press of accidents occurring from the use of toy-pistols. These articles are of two or three kinds, some using a cartridge of thin tissue paper enclosing a minute quantity of fulminating powder; others making use of a composition of phosphorus and chlorate of potash similar to that sometimes employed for tipping matches; and others still have cartridges of copper, charged with nitro-glycerine, giant powder, or dynamite, tamped with clay. The first are the least objectionable; but, as a part of the cartridge consists of very fine gravel, which may be driven into the eyes by the explosion of the fulminate, they cannot be called safe playthings. The second kind, those in which the charge consists of a pellet of phosphorus and chlorate of potash are objectionable from the fact that the phosphorus is liable to cause burns which are difficult to heal, being poisoned by the acid produced during the combustion, and which leave unsightly scars. It is true that the liability to such accidents may be decreased by a very careful and exact proportioning of the ingredients of which the cartridges are composed, but a knowledge of chemistry sufficient for this is hardly to be looked for among the workmen employed by the manufacturers. The third, however, is doubtless the variety to which the accidents already referred to are due; these accidents are always very severe, and in several instances have ended fatally. Their cause is briefly this: into all explosions the element of time enters to a greater extent than is usually suspected, and on the rapidity with which combustion occurs depends very often the amount of damage done, or rather whether any mischief at all shall result. Gunpowder, which seems to explode instantaneously, is really among the slower of the explosives, and hence it may be used with a greater measure of safety than almost any other. Gun-cotton is variable in its action, and may be rendered slow or quick at pleasure; the fulminates are very rapid, while nitro-glycerine is almost uncontrolable—a property which at once gives rise to some of its most valuable applications and renders it especially dangerous in incautious or inexperienced hands.

A drop or two of nitro-glycerine placed in a thin copper shell in company with a minute portion of fulminate, and covered with clay, constitutes the cartridge furnished with the toy-pistols to which the serious accidents have been owing; this cartridge is placed in a roughly constructed barrel, usually made of cast-iron, fitted with a hammer which is forced down upon the cartridge by means of a tolerably powerful spring. The explosion frequently bursts the thin copper shell instead of driving the clay pellet out through the barrel, and fragments of the metal are driven into or through the palm of the hand, or into the large muscles on which the action of the thumb depends. Every surgeon knows that lock-jaw or tetanus is peculiarly liable to result from gun-shot wounds of the hands or feet, and many sad illustrations of the fact were given in the columns of the Wisconsin press about the time heretofore mentioned.

We learned from our correspondents that the sale of these toy-pistols was prohibited in several places, but in the large majority of our towns and cities no action was taken, and children were allowed to purchase the dangerous playthings and to run the risk of pain, mutillation and death in one of its most frightful forms for the advantage of thoughtless or unscrupulous men.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending October 28, 1882, indicate that dysentery and remittent fever have considerably decreased and that cholera morbus, rheumatism, typho-malarial fever, cholera infantum, diarrhœa and tonsillitis have decreased in area of prevalence. There was no marked increase in any of the diseases tabulated.

For the month of October, 1882, influenza, bronchitis, diarrhœa, cholera infantum, dysentery, and erysipelas seem to have been more prevalent, and remittent fever, diphtheria, intermittent fever, scarlet fever, and whooping-cough less prevalent than the average for October in the preceding five years. It will be seen that the most noticeable decrease is in the communicable diseases most to be dreaded in Michigan.

OBITUARY RECORD.—DIED, on October 13, 1882, CASIMIR JOSEPH DAVAINE in the 71st year of his age. Davaine is best known as having established the contagiousness of charbon from animal to man, and that the contagium depends upon bacteria. He also determined that the essential cause of difference between malignant pustule and other gangrenous diseases depended upon the presence of bacteria in the former disease which were capable of multiplying by inoculation.

—— Our English exchanges announce the death, in the 58th year of his age, of Mr. JOSEPH T. CLOVER, the well-known chloroformist to various London hospitals.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 30 TO NOVEMBER 6, 1882.

SPENCER, W. C., *Surgeon.*—In addition to his duties at Fort Snelling, Minn., to perform the duties of attending surgeon at Department Headquarters.—*S. O. 176, Department of Dakota, October* 24, 1882.

O'REILLY, ROBERT M., *Captain and Assistant Surgeon.*—Detailed member of board of officers to assemble at Washington, D. C., to examine into and report upon qualifications of candidates for superintendents of national cemeteries.—*S. O. 254, A. G. O., October* 31, 1882.

APPEL, AARON H., *First Lieutenant and Assistant Surgeon.*—Leave of absence extended two months.—*S. O. 255, A. G. O., November* 1, 1882.

GRAY, W. W., *Assistant Surgeon.*—Granted one month leave of absence on surgeon's certificate of disability, with permission to apply for an extension of five months.—*S. O. 103, Department of the South, October* 31, 1882.

BARNETT, RICHARDS, *Assistant Surgeon.*—Granted leave of absence for one month, with permission to apply for extension of five months.—*S. O. 202, Department of the East, November* 1, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked,

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLI. SATURDAY, NOVEMBER 18, 1882. NO. 21.

ORIGINAL LECTURES.

ON POTT'S DISEASE.

A Clinical Lecture, delivered at the Bellevue Hospital, New York.

BY LEWIS A. SAYRE, M.D.,

SURGEON TO THE HOSPITAL, AND PROFESSOR OF ORTHOPÆDIC SURGERY AND OF CLINICAL SURGERY IN BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK.

(Specially reported for THE MEDICAL NEWS.)

GENTLEMEN: This boy, aged thirteen years and nine months, was brought to me by Mr. Reynder (surgical instrument maker) about a week ago. He resides in Green Point, Long Island; his mother states that both parents and grandparents are healthy—she has, however, lost six chlldren, these dying from scarlet fever. The patient has always had good health; has had no disease except the measles and whooping-cough. On March 1, 1882, the patient received a severe fall upon the ice, and afterward complained of pain in the back. His mother took the boy to the Demilt Dispensary, and informs me that Dr. White said there was nothing the matter with him, and ordered a simple tincture. Three weeks after the fall, she noticed a projection over the dorsal vertebræ, and took him to Dr. Peer, of Green Point, who applied the plaster-of-Paris jacket as the child lay on the table; he, however, placed no padding to protect the vertebræ.

The boy was only able to wear the jacket for a few days, as it caused pain in the spinal column and impeded his respiration. Dr. Peer was again consulted, and he advised the mother to take the boy to Dr. Knight, of the New York Hospital for the Ruptured and Crippled, who applied a brace having shoulder-straps and fastenings around both thorax and abdomen (see Fig. 1). The mother states she has regularly

FIG. 1.

taken the boy to Dr. Knight, and followed instructions faithfully, but became dissatisfied with the treatment, as the deformity rapidly increased. She was then advised by a friend to consult Dr. Frank Hamilton, who advised her to return to Dr. Knight, as he knew of no one so well able to treat the case.

Dr. Gibney, of the New York Hospital for the Ruptured and Crippled, carried out the treatment recommended by Dr. Knight. The deformity, however, increasing, the mother called upon me with Mr. Reynder, at the same time showing me a report from the Hospital of the Ruptured and Crippled, from which I quote the following: "The discoveries, inventions, and mechanical appliances, in accordance with physiological laws and surgical science, we make available, but we carefully avoid compression of the respiratory organs by encasing them in plaster of Paris, or impeding the arterial circulation by compressing bands to the limbs. All such adventurous treatment is avoided in this hospital."

It is the first time I have seen this report, or I should have replied to it a long time ago. I therefore avail myself of this first opportunity, only regretting that I have not had time to call and see Drs. Knight and Gibney, and that I did not write to them and invite them to be present to-day, as they could then personally have seen the advantage of the plaster-of-Paris jacket, and that their own brace, and not the plaster jacket, was compressing the patient.

Now here is an excellent opportunity for testing the relative merits of the plaster-of-Paris jacket, which we will now apply, and point out the defects of the brace previously worn by the patient and which these gentlemen advised. The following measurements were now made with the brace upon the boy, the measurements being over the brace:

Over top of chest,	25⅝ inches.
Over nipple,	24⅝ "
Over umbilicus,	27½ "
Capacity of lungs measured by spirometer,	98 cubic "
Height,	4 feet 5⅝ "

The brace was then removed and the following measurements taken:

Over top of chest,	27¼ inches.
Over the nipple,	26⅛ "
Over the umbilicus,	24 "
Height,	4 feet 6⅛ "
Capacity of lungs,	116 cubic "

Upon a second trial of the spirometer, the boy blew so hard that the rubber pouch of the instrument burst, and thus unfortunately prevented the capacity of the lungs being taken after the application of the plaster jacket.

This is a practical illustration. We will now notice another point of objection to this brace. It is impossible to hold the instrument in position without tightening this muslin cloth to hold the irons in place. You then cause compression of the thorax. You also notice upon the sacrum and on either side of the ilium there are bruises, and again upon either side of the spine upon the spinous processes we find these bruises (see Fig. 2). It is impossible to fasten this brace securely and retain it in position without causing these lesions.

This practically shows you to what extent this brace compresses both thorax and abdomen, and to what extent circulation and respiration has been impeded (see Fig. 3). We will now place the child in such a

position that he can expand the lungs to the greatest possible extent, and we then apply the plaster-of-Paris jacket so that no excoriation of the body can take place, but all parts are equally and securely encased, avoiding pressure at any one point, and he can expire as freely as though the jacket were not worn. Some of the leading professors of Europe have used chloroform in order to secure greater extension, and have even attached weights to the heels to secure this result, but this is a most dangerous method.

FIG. 2.

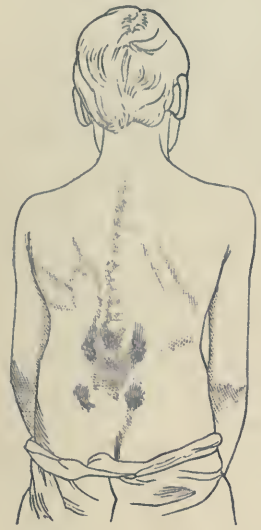

FIG. 3.

A leather collar was then placed around the patient's neck, with two straps on either side passing under the occiput and inferior maxilla to a suspended cross-bar, to which also were attached two straps passing under the arms. He was then carefully and gradually raised to his fullest height, at the same time leaving the feet firmly upon the ground. My rule is to raise the child within the limits of comfort, but not to cause a feeling of uneasiness or pain in the least degree.

We now apply to him a knitted shirt, manufactured by the Bickford Knitting Machine Co., 689 Broadway. The object is to have a perfectly elastic shirt. This fits the patient close to the skin at every point. Now, under this shirt anteriorly we place a folded cloth-pad, a little thicker over the sternum; then drawing the shirt firmly down between the legs, secure it there with a safety pin in order to keep it perfectly smooth.

Having previously prepared the bandages as follows: take cross-bar muslin, tearing it in strips three inches wide, rub the plaster of Paris well into the bandage, then roll it up carefully and keep it in a hermetically closed case or box to avoid absorption of moisture until ready for use; I use the dental plaster, which I find is the only plaster I can rely upon and which, generally speaking, sets as fast as applied; we now, as required, dip them into a basin containing sufficient water to cover them when standing on their ends; as soon as the air has escaped from the bandage it is then ready for use. You will here observe that I now place a pad on either side of the spinous process, to protect that eminence caused by disease; it is sometimes desirable to place a pad over the ilium, but in this case it is not necessary; the patient being now ready, my assistant applies the plaster-of-Paris bandages; you will notice as he draws the bandage around the body that I follow up with my hand rubbing the plaster into each band previously applied.

Now although the back is made as straight as it can well be by the suspension, yet the weight of the head still presses down upon the spinal column causing absorption of the vertebræ at the diseased point; it is necessary, therefore, to take the weight of the head from off the spine, and we now apply a *jury-mast;* this, as you observe, consists of two narrow cross-bars and side rods, from which passes a central rod, this central rod curving over the head of the patient, is supplemented with a small cross-bar; to the body of this light framework are fastened narrow strips of tin, perforated in both directions, the projecting burrs of which hold the instrument securely in the bandages. I have noticed that some physicians have perforated the tin in only one direction, thus allowing the instrument to slip on one side. The jury-mast being now shaped to fit the spine of the patient the plaster bandages are again applied over the instrument, encasing it firmly and securely in the centre of the jacket.

The patient should now be laid upon an air-bed; in taking the child down from his suspended position keep the body perfectly straight, for should you allow him to bend his back before the plaster has set, the application of the plaster jacket is of no avail and your work is lost.

We now draw out the pad which was placed over the thorax and abdomen under the shirt, and before the plaster has thoroughly set I commence with my fingers and thumbs to mould the jacket in over the spines of the ilium so as to widen the jacket out and take off the pressure upon the spinous processes, and at the same time to mould the jacket to fit the body; you thus shield the parts from pressure at any one point and equalize the pressure upon all parts of the trunk, and hold the child, as it were, from telescoping. It is now necessary to cut out some part of the jacket from under the arms, and also slightly in front of the thigh to allow him to flex the thigh. The plaster jacket now being dry, we proceed to take the weight of the head from off the spine by placing a light leathern collar with chin-piece attached around the neck of the patient; from this collar two small straps pass on either side of the head and are fastened to the cross-bar above the head, thus effectually relieving the spine from compression. And now, standing the boy upon the floor, you notice he can percuss upon the ground with his heels without percussing the vertebral column at all, and no pain is caused by the percussion. (The boy then stamped upon his heels without feeling the least pain, or indicating any by his countenance; the difference in the expression of his countenance being most marked.) This is a practical fact; it is not theory.

The old-fashioned brace had arm-pieces to lift the shoulders up, but that does not take off the pressure from the spine; when you take the pressure from the spinal column by elevating the head, the respiration is perfectly free, there is no compression of the thorax, and hence the advantage of the plaster-of-Paris jacket —compression of the parts is entirely avoided, while the vertebral column is relieved from the weight of the head as described.

This boy has had the jacket on him once before, but without effecting the desired result, simply because it was put on when he was lying down. I have tried all ways in which to apply the jacket and find the best way to apply it is when the patient is suspended.

CASE II.—This little boy was brought to me May 23, 1881. I here give you his history, as recorded on my books.

May 23, 1881.—Wm. Halsey Baird, age 2 years, 2 months, 23 Cottage street, Newark, N. J. Parents both healthy, have one other child which is strong and healthy, and is now 7 years of age.

Patient was always well until September, 1880, last,

when the child had a cold, and was taken to Dr. S. B. Dennis; as the child had never walked, the Doctor treated him by electricity, salt-water baths, massage, etc., for nine months; not improving, the child was taken to Dr. Blylie, who finding frequent priapism from contracted prepuce, attributed his want of muscular power to reflex irritation, and circumcised him. Not improving, however, in his ability to stand or creep, and complaining of constant stomach-ache; Dr. Blylie suspected trouble of the spine, and on examination found two small projections over the two lower dorsal spines, and advised the father to come to me.

On examination I found that the eleventh and twelfth dorsal vertebræ were quite prominent, the child was unable to stand. On laying him on his stomach across my knees and extending the spine, his breathing was more free, and he said he felt well; on pressing the head and sacrum towards each other it produced a spasm of his legs, and he cried severely with the pain induced by the pressure. Diagnosis: Spondylitis of the eleventh and twelfth dorsal vertebræ. No cause could be assigned for the difficulty.

Treatment: horizontal position, in wire cuirass.

May 31st.—Child was placed in a wire cuirass.

July 1.—Child has improved since being placed in the cuirass; to-day suspended him and applied plaster-of-Paris jacket.

4th.—Child stood up to-day for the first time.

Aug. 8.—Child has been perfectly comfortable since the jacket was applied.

Nov. 30.—Child has been in excellent health since last date; has been walking for the past five or six weeks; the jacket was cut down about two weeks ago, because it was too tight, and secured by a roller bandage; child has grown in every way. I afterwards applied a new jacket.

April 4, 1882.—Five weeks ago the child complained of the jacket being too tight, the father then cut it down and secured it with a roller bandage; has been perfectly well all the winter, and has been walking all the time. When the jacket was removed the child could stand and walk without any pain or support. There is no pain on compression or concussion; a new jacket was then applied as a protection against relapse.

Sept. 18.—Child is perfectly well, and no perceptible deformity of the spine, with the exception of a slight fulness hardly observable; can run and jump as well as any child.

Weighs 31½ pounds, and measures 3 feet and ¼ inch in height. (The child was then stripped and placed before the class.)

Now here (pointing to the child) by carefully looking you can see a slight shadow and fulness just at the lower dorsal vertebræ; it is, however, hardly noticeable.

Dr. H. Smith, of Philadelphia, states that no case of Pott's disease was ever cured without deformity. If you let the case go on too far, of course you will get deformity; if absorption of the vertebræ has taken place, there is a deformity that will last a life-time, but the deformity is not the disease, it is the evidence of the disease; the disease must have existed a long time before the deformity occurred.

Now your duty as a skilful practitioner is to diagnosticate the disease in its incipient stage; and if you will carefully spell out the symptoms, you will diagnosticate the disease before the deformity has occurred; and if you apply the treatment in that stage, you will cure the disease without deformity. I have found the average time of cure to be effected in from two to two and a half years, some being cured at an earlier, and some at a later date. Now compare these statistics with those of past years, where the patient was confined to his bed for ten or twelve years, and if they ever were cured it was with a deformity.

Now here is a boy, you observe, who has been cured almost without any deformity at all in less than eighteen months; this child (here placing a penny on the floor) stoops over and picks up a penny from the floor as well as any child; you will see those children who are suffering from this disease, when attempting to pick anything up from the floor, will squat down bending sideways, and avoid bending the spine, which they would not do if free from disease of the vertebræ. When we have cured the child of the disease, we cut the jacket down and allow him to wear it as a corset for some months longer, simply as a protection against a relapse (see Fig. 4).

FIG. 4.

Mr. Howard Marsh, of St. Bartholomew's Hospital, London, in an article written by him in the *British Medical Journal* of October 12, 1881, remarks, "that although the plaster jacket is the best treatment for adults, it is an absolute impossibility to apply it to a child under nine years of age, because they have not sufficient pelvis to support the jacket." I have not had time to answer this remark, but of a great number of children below the age of nine years who have had the plaster jacket applied, the greater number have been cured with but slight deformity; and I am waiting to bring together a number of those who have been cured by this means, and have them photographed in a group. I have not been able to get many cases of children suffering from this disease who can stand up or run about when brought to me because they were too young or were paralyzed, and therefore could not take their photograph before the application of the jacket; we have only the artist then to rely upon for a picture of the child's condition, and people will scarcely credit his representations, no matter how good an artist he may be. You can, however, verify these facts in your own practice. If the child is too young, and has no pelvis to which you can apply the jacket, you must then place it in a wire cuirass for a few months; the child can in this manner be carried out-doors to secure the benefit of the fresh air.

Mr. Marsh states that a child being only as large around the hips as at the umbilicus, the plaster will slip off; now here is a practical case to illustrate this point: the plaster jacket worn by this child (measuring

jacket before class) is exactly 21 inches around the umbilicus, and it is also exactly 21 inches around the hips; but, as you observe, it has been moulded in when wet, over the crest of the ilium, and it is exactly 21 inches at that point, thus proving Mr. Marsh's measurement correct. Now in order to obviate this difficulty, I mould the jacket in when wet, over the crests of the ilium and secure a shoulder for the jacket, at the same time allowing greater distention of the abdomen. I also, as you observe, have moulded this jacket in *before* the ilium antero-posteriorly, thus increasing the width of the jacket laterally, which is just the opposite to the moulding *above* the ilium, and thus the jacket is held firmly upon the child, the measurements still remaining just the same, namely 21 inches.

CASE III.—Now here is a little boy who, had he been treated in the proper manner, would not be in his present condition, but the father of the child, Mr. Dunn, will give you the history of the case. Statement made by Mr. Dunn: "We discovered that something was the matter with the child some seven weeks before we could see anything outwardly; especially we noticed it when the child would stoop down; I sent for a physician, and he decided something was the matter with his spine; he sent to New York to get a brace to support the spine. In two weeks time after wearing the brace the projection upon the spine was almost as distinct as it is now. At the time of the application of the brace there were no appearances of this projection upon the spine."

This statement does not surprise me in the least; if you bind the child together how can it grow; it would make it grow deformed with these straps over the shoulders and around the body; they will crush the vertebræ together and increase the rapidity of the growing deformity. This child was afterwards put into a hammock and the plaster jacket applied as the child lay on his stomach, according to the method of Mr. Davy of London, which, you will observe, has given a backward curve to the spine; he cannot percuss upon his heels, as you see.

Now this child has been under treatment for two years and you see how great the deformity of the spine is at the present time. Compare it with that of the previous case, who has now been under treatment but eighteen months, and yet is completely cured and without deformity. A simple glance will suffice to show how far the superiority of the plaster-of-Paris jacket, when properly applied in the treatment of spondylitis, is over any brace that has yet been invented.

At a future time I will bring before you the first case presented here to-day; we will then note the boy's condition as treated by the application of the plaster-of-Paris jacket.

ORIGINAL ARTICLES.

IS TUBERCULOSIS A PARASITIC DISEASE?

FOURTH PAPER.

BY GEORGE M. STERNBERG, M.D.,
SURGEON, U. S. A.

BEFORE proceeding to give an account of the results obtained in my inoculation experiments with tuberculous sputum, I beg to be indulged in a few remarks with reference to the value of photography in the study of micro-organisms. These remarks are suggested by the wood-cut (figure 6) in my last paper, which is copied from a photo-micrograph of *Bacillus anthracis* (amplification 500 diameters).

This figure illustrates very well the difficulty of reproducing a photo-micrograph, satisfactorily upon wood; and, also, the fact that the value of sun-pictures of micro-organisms depends to a certain extent upon whether they are to be subjected to the scrutiny of a trained or untrained eye.

Those who are familiar with *Bacillus anthracis* from personal observation or from drawings will scarcely recognize the amorphous granules and irregular linear figures in this wood-cut, as the spores and rods of the bacillus in question. The central filament is, however, very well drawn, and it was for this especially that this photo-micrograph was selected.

It is well-known that an expert microscopist, when at work, pays very little attention to extraneous objects in the field, to dust-specks on the eye-piece, etc., while a novice is very apt to have his attention particularly attracted by these things and to overlook the particular object which we desire to show him. So an art connoisseur looking at a time-worn picture is able to exclude the fissures and stains, and to his mental vision the work of the master is revealed in all its perfection of form and color, while for the uneducated eye there is no beauty in the scarred and dingy canvas.

The focal range of the high-power objectives used in photographing bacterial organisms is so short that all of the objects in the field of view can not be brought into proper focus at the same time, even when these are attached to the thin glass covers, as is customary; for all are not in exactly the same plane, and there is a certain variation in the diameter of these minute organisms which causes the best focal adjustment for one, to be not the best for another. The aim of the operator is, therefore, to secure the most satisfactory general results, and the expert in looking at the picture will fix his attention upon the objects which are well-defined, recognizing the fact that some are a little out of focus and therefore more or less distorted.

In view of their difficulties I am inclined to think that it is better to place carefully executed drawings, made by the observer, in the hands of the wood-engraver, rather than photo-micrographs.

By the heliotype process the latter can be reproduced with great fidelity; but owing to the expense of this process this mode of illustration is not available for journal articles. The main value of photo-micrographs consists in the fact that they show to an expert that the observer who thus illustrates his work has sufficient technical skill in the manipulation of high powers and in preparing, staining, and photographing the organisms which he describes, to insure his readers that they are not the victims of gross mistakes, such as have more than once passed current in medical literature as the result of a facile pen in the hands of an indifferent microscopist. Beyond this, photo-micrographs possess an especial value for the observer himself. They are his memoranda of what he has seen, and enable him to compare organisms observed at different times, to detect slight morphological differences, various modes of grouping, etc. I take this opportunity, also, for correcting a typographical error in my last

paper. On page 312, second column, third line from bottom, for "spontaneous *fusion*," read "spontaneous *fission*."

In my third paper (page 312) I report a negative result in three out of six specimens of tuberculous sputum furnished me (Aug. 10) by Prof. Hirschfelder from patients in the City and County Hospital, San Francisco. A subsequent examination by Dr. H. and myself demonstrated the presence of Koch's bacillus in the sputum of these patients. One of these cases has since terminated fatally, and I have in my possession a portion of the lung preserved in alcohol. The tubercular nodules in this lung contain the bacillus in abundance.

A more ready way of demonstrating the bacillus in such material than the somewhat tedious process of making sections, staining, and mounting in balsam, is to make a fresh section, pick out a tubercular nodule with a clean instrument, crush it upon a thin glass cover in a drop of distilled water, dry by gentle heat, and finally stain by Ehrlich's method.

Experiments upon Animals.

Experiment No. 3, July 29[1].—The following animals were inoculated with the sputum of a tuberculous patient (diagnosis by Prof. Hirschfelder, to whom I am indebted for the material): One pup, four weeks old; one half-grown rabbit (white); two smaller rabbits (spotted); one small guinea-pig. My report of the microscopical examination of the material used in these experiments will be found on page 311 of this journal and is as follows: "A few bacilli were seen by Baumgarten's method which possibly respond to the test-failure to stain by methyl violet after treatment with solution of potash—but the result is not considered satisfactory, as the bacilli referred to appear to have less color than others in the same preparation, because of their smaller diameter, rather than to be entirely without color." At the present writing I no longer doubt the presence of Koch's bacilli in the material referred to, and am convinced that the demonstration would have been made at the time if I had been familiar with Ehrlich's method.

The pup used in this experiment presented no signs of ill-health up to the time it was killed (October 11th). It had, however, a local ulcer at the point of inoculation (the side of the neck) which did not entirely heal until a short time before the animal was sacrificed. Post-mortem examination did not reveal anything abnormal in the lungs, spleen, or liver. The animal was fat and no tubercles were discovered in the organs named, or the serous membranes.

The half-grown white rabbit was killed October 8. A few miliary tubercles (?) of small size were founds in the lungs of this animal. These did not contain Koch's bacillus. Lymphatic glands from the axilla, examined by Ehrlich's method, also gave a negative result. The animal was fat and all the organs appeared to be normal with the exception of a number of minute tubercles scattered through the lungs as stated.

[1] For an account of experiments 1 and 2 of this series, see THE MEDICAL NEWS, page 311.

One of the small spotted rabbits was killed October 9. This animal was in good condition and had grown very much since the date of inoculation. *The lungs contained groups of tubercular nodules of considerable size, and the bacillus of Koch was found in these by the method of Ehrlich.*

The other spotted rabbit has been lost sight of, and has possibly been used in one of my septicæmia experiments.

The small guinea-pig was killed October 9. The animal had grown considerably, and was in apparent good health. There was still an open ulcer, the size of a silver five-cent piece, at the point of inoculation. The lymphatic glands in the axilla, near point of inoculation, were greatly enlarged. *The lungs, liver, and spleen contained numerous tubercles, and the presence of Koch's bacillus was demonstrated in these organs and in the enlarged lymphatic glands.*

Experiment No. 4, August 12.—Inoculated the following named animals with tuberculous sputum from Dr. Brook's case. This patient was in the last stages of consumption, and has since died. The sputum contained an abundance of Koch's bacilli. (*Vide* MEDICAL NEWS, page 312.) One pup, six weeks old; one large spotted rabbit; one small spotted rabbit; one large male guinea-pig.

The small rabbit died at the end of three days. The lungs, liver, spleen, kidneys, and brain were normal in appearance, and the remark was made at the time that the animal probably died from some cause independent of the injection. Its colon was in a congested condition. No bacilli were found in lymphatic glands from the vicinity of point of inoculation.

The guinea-pig died August 24. There was a considerable collection of fluid pus at the point of inoculation, which was found to contain a few of Koch's bacilli. The animal was quite fat; its liver was leather-colored and loaded with fat; the spleen was slightly enlarged and dark-colored; lungs normal. No tubercles found in any of the organs. It is the writer's opinion that the animal died of septic poisoning (septic toxæmia due to chemical products of decomposition) resulting from the presence of the collection of putrid pus in the subcutaneous connective tissue.

The large spotted rabbit remained in good flesh, and in apparent good health up to the time it was killed, October 7. An ulcer, of small size, was discovered at the point of inoculation a few days after the operation. Pus from this ulcer examined September 14, contained Koch's bacilli. The lymphatic glands in the vicinity became enlarged, and upon making an incision into one of them (September 18) a small quantity of cheesy pus escaped. This was carefully examined for the bacillus, by Ehrlich's method, with a negative result. The absence of the bacillus was also proved by two culture-experiments in which sterilized blood-serum was inoculated with a little of this cheesy material. No development occurred. This rabbit remained in good condition, and in apparent good health up to the time it was killed, October 7. Upon post-mortem examination a collection of cheesy pus was found at the point of inoculation, and an enlarged

lymphatic gland in the vicinity contained material of the same kind. One small group of tubercles was found in the lungs. Koch's bacilli were not found in these or in the contents of the enlarged gland.

The dog was killed October 12, just two months after inoculation. It had an open ulcer at the point of inoculation for several weeks, but this had cicatrized a short time before its death. It remained active and playful, and in good flesh up to the date mentioned. Upon post-mortem examination two enlarged glands were found in the axilla, near point of inoculation, and *contained an abundance of Koch's bacilli.* The spleen contained numerous miliary tubercles, but no bacilli were found in these. The lungs were normal.

Experiment No. 5, August 14.—Inoculated two small rabbits with sputum of tuberculous patient (case in my own practice, *vide* MEDICAL NEWS, page 312) demonstrated, by Ehrlich's method, to contain Koch's bacilli.

One of the rabbits was injected with normal saliva (my own) October 3, and died of septicæmia on the 6th. Its lungs contained numerous groups of tubercles, but repeated examination has failed to demonstrate the presence of the bacilli in these.

The other rabbit was killed September 25. The lungs were found to contain *a few tubercles in which Koch's bacilli were found.* Other organs normal, with exception of two cysts in the liver containing the ova of a parasite (species ?) very often found in this situation in the rabbit.

Two culture-tubes containing gelatinized blood-serum, sterilized by Koch's method, were inoculated with tubercular material from the lungs of the rabbit last mentioned. These were placed in the culture oven at 100° Fah. No development occurred in one of these tubes, but in the other microscopical examination made at the end of twenty days showed that an abundant development of Koch's bacilli had taken place. As pointed out by Koch this development takes place *in situ*, the bacilli not penetrating the gelatinized blood-serum, and nót extending materially upon the surface. I have several other cultures started, and in each case with the same result, so far as the naked-eye appearance is concerned. The blood-serum remains transparent and free from other micro-organisms; the bits of tubercular material remain upon its surface; and the only change apparent is a slight lateral extension (?) and increased opacity, or rather a faint brownish color in place of the pearly white lustre of the original material.

Experiment No. 6, August 24.—Inoculated a small rabbit with pus from large guinea-pig (subject of experiment No. 4). This pus, which came from an abscess at point of inoculation, was found by Ehrlich's method to contain Koch's bacilli. The rabbit remained in apparent good health, and in good condition up to October 11th, at which date it was killed. A single transparent nodule the size of a pin's head was found upon the surface of one lung. This examined at once by Ehrlich's method, was found to contain giant cells and the bacillus of Koch. The bacillus was also found in a collection of cheesy pus at the site of inoculation and in an enlarged lymphatic gland from the vicinity (axilla). This enlarged gland contained numerous white nodules which contained giant cells and the bacilli in question.

The writer proposes to leave those who have followed him thus far to judge for themselves as to the value of the experimental evidence above recorded. Having undertaken to repeat the experiments of Koch, he does not wish to be hampered by any premature expression of opinion, as the most important portion of the experimental inquiry remains to be made, viz.: the cultivation of the bacillus through successive generations, (a fortnight is required for a single culture); inoculation experiments with pure cultures; and, side by side with these, inoculation experiments with material from various sources which is free from the bacillus.

But our promises are made as to the completion of this undertaking which involves a considerable expenditure of time, and a certain amount of money, items which are of some consequence when they are drawn from the resources of a single individual. Fortunately Koch has had a liberal government at his back and his experiments may be counted by hundreds, where those of his humble followers can not be by scores. Still the observations and experiments recorded in these papers have been no inconsiderable tax upon the writer's time during the past four or five months, and, as one engaged in interrogating nature by the experimental method, has always a sufficient number of problems before him in which he can take the more agreeable *role* of pioneer, he feels scracely equal at present to the labor involved in following to the end the path which has been trodden by this indefatigable explorer. Nor are my facilities for doing this work such as I would wish. A culture-chamber kept in operation, night and day for many months, by means of *an alcohol lamp* (no gas at military posts), is not only expensive but difficult to regulate. Rabbits and guinea-pigs are not always to be had in the San Francisco markets, and the price demanded for them indicates that they are offered for sale as pets rather than for the table, or for scientific purposes.

Perhaps, then, some one more fortunately situated will take up this matter where I leave it for the present. Or, if we wait a little, it may be that some one of the many well-known experimentalists in Europe, under government auspices, will undertake to repeat Koch's experiments, and we will then have the confirmation, as we have had the exploratory investigation, without putting our hands in our pockets, and, as heretofore, will have the calm satisfaction of knowing that we receive our scientific information at second-hand.

STRYCHNIA AS AN ANTIDOTE IN CHLORAL POISONING.

BY J. T. MOORE, M.D.,
OF TILSONBURG, ONTARIO, CANADA.

IN the *American Journal of Medical Sciences* for April, 1882, page 608, under the heading of Med-

ical Jurisprudence and Toxicology, I find an article from eminent authority relating to the antagonism of strychnia and chloral, the correctness of which I cannot verify from past experience (at least some of the conclusions). I do not for a moment dispute the theory as arrived at by experiments on rabbits or other small or cold-blooded animals, but I state that experience teaches us more truthfully and practically when circumstances arise by which conclusions may be drawn from actual experiment upon the human organism. To show the power which large toxic doses of strychnia exert in controlling and antagonizing acute chloralism, I cannot illustrate better than to give report of following case:

CASE I.—On May 30, 1882, at 10.30, A.M., I was requested by Dr. Soper to meet him in consultation to see O. B., aged about 50, spare build, and prematurely aged in appearance. Upon arriving, I elicited the following information from Dr. Soper, who first saw the patient about thirty minutes before I arrived. About midnight the patient had left in his room an 8-ounce mixture, containing 1 drachm of chloral hydrate to the ounce. He was on a visit to his brother, who lives in town, and stated that he had been in the habit of using a similar mixture to relieve pain and produce sleep; however, in the morning, when they went to call him, he was in a profound sleep, from which they could not rouse him. They concluded to allow him to sleep, which he did until 10 o'clock, A.M., when they became alarmed and sent for a physician. He had taken 5 ounces of the mixture, which represented 300 grains of chloral; present condition, surface cold, heart's action very rapid, feeble, and irregular, missing about every fourth beat; respiration labored; pupils totally insensible to light; conjunctiva intensely congested, totally insensible to all external impressions; reflex excitability totally *nil.*; tongue paralyzed, so that he had to be rolled well forward to prevent it falling back into throat and impeding respiration; mucous râles of large character in both lungs, and considerable rumbling in stomach and bowels. His condition was such that we could not give anything *per via nat.* The time, about six to eight hours, since taking the dose rendered the stomach-pump of no assistance. We concluded the only chance left was hypodermic medication; consequently I threw into the right arm 5 minims of the pharmaceutical solution of liquor strychniæ, diluted with 5 minims of water; in ten minutes the pulse was stronger, slower, and more regular; it then registered 116; thirty minutes later it had risen to 144, weak and flabby again; threw into left arm 7 minims liq. strych., diluted to 14 minims; ten minutes later, pulse 120, stronger, and more regular than before; also, gave enema of two ounces of brandy in half a pint of milk; respiration much easier. Professional engagements calling me away, Dr. Soper watched him as he gradually improved, pulse falling and becoming stronger, and respiration becoming more natural, until 2 P.M., when the symptoms seemed more stationary. At 3 P.M. Dr. Soper threw into the left arm 6 minims of strychnia, as before. I called at 3.30, and found the patient bolstered up in bed, taking cognizance of surrounding objects in a bewildered manner, pulse 68, strong, perfectly regular, and from this time the patient steadily improved, and at 7 P.M. was able to get up, dress, and walk about the house, asking for more chloral; passed water freely at 7.45. The following morning he rode thirteen miles in a stage coach to his home, where the following night he succeeded in getting hold of a mixture containing 700 grains of chloral, which had been hidden from him, and drank the whole of it, dying about two hours after.

CASE 2.—Some three years ago I had a valuable dog poisoned with strychnia. Every symptom strongly pointed towards speedy death. I used hypodermically a saturated solution of chloral hydrate, carrying it independent of quantity to total hypnotism; the result was, life was saved and a good recovery made, although partial paralysis of hind quarters existed for a couple of weeks; temporary paralysis of bladder and bowels passed off in twenty-four hours.

From the above cases, I should not feel justified in wasting valuable time in trying other experiments, as I believe, unless the quantity of either poison taken be not largely in excess of that which the animal economy can eliminate in a reasonable time, they may be antagonized the one by the other.

SODIUM BICARBONATE IN THE TREATMENT OF ACUTE TONSILLITIS.

BY E. STUVER, B. SC., M. D.,
OF RAWLINS, WYOMING TERRITORY.

THE routine treatment of acute tonsillitis by means of gargles, inhalations of medicated vapors, leeches, poultices, etc., even in the most skilful and judicious hands, furnishes at best but very unsatisfactory results.

Flint, in his *Principles and Practice of Medicine* fourth edition, page 396, says, "Acute tonsillitis generally ends in suppuration; an abscess forms and purulent matter sometimes fetid, and nauseous to the taste is discharged after a period varying in different cases from two to ten days."

The disease, while not involving danger to life, except in those rare cases in which œdema of the glottis supervenes, is nevertheless, owing to the pain and difficulty in deglutition, a very distressing affection.

In view of the above-indicated results of treatment, together with the fact that the most eminent and popular authorities, do not allude to the beneficial effects derived from sodium bicarbonate in the treatment of this disease, and in order that the attention of the profession may be directed to the subject, and the efficiency of the remedy thoroughly tested, the following case is reported:

Mrs. D., æt. about 27 years, a strong healthy woman, has for years been subject to very severe attacks of acute tonsillitis, which cause intense suffering, and though always energetically treated by poultices, gargles, scarifications, etc., have invariably resulted in suppuration and discharge of pus. She has had four or five attacks of this kind previous to the one under consideration.

On September 7, 1882, had a chill, followed by

fever, pain in the head, and general muscular soreness. On the following day the tonsils began to enlarge. A gargle was obtained from another physician, but had no effect whatever in checking the progress of the disease. On September 9, about 6 P.M., was called to see the patient, and found her suffering very severe pain in the tonsils, which on inspection were found to be much enlarged, the right more than the left, of a dark livid hue, and covered with a white, easily detachable exudation; voice greatly impaired, and attempts at speaking or deglutition very painful, and nothing except small quantities of liquid could be swallowed.

Temperature 101° (Kew); pulse 100. Gave a gargle of potassium chlorate and tincture of chloride of iron in aqueous solution, and ordered it to be used at short intervals. Called at 9 o'clock P.M., but found no improvement in the symptoms.

Resort was then had to sodium bicarbonate, which was thoroughly applied to the affected parts, in *powder form*, by means of an insufflator. The applications caused some retching, and considerable material was ejected with manifest relief. The nurse was then instructed how to make the applications and directed to apply the remedy every hour during the night, which she faithfully did.

Sept. 10.—9 A.M. Temperature 99°; pulse 104. 8.30 P.M. Temperature 100°; pulse 90.

Rested very well during the night and this morning, throat is feeling much better, there being but little pain in, and considerable diminution of size of tonsils, also decided improvement of voice. Gave instead of the sodium bicarbonate an application of the following, viz.:

℞.—Acidi Tannici,	. . . . 3i.
Iodoformi,	. . . . . grs. x.—M.

But this increased the pain and was not repeated. Continued the sodium bicarbonate applications at short intervals during the day, and in the evening found the patient much improved and highly elated at the prospect of escaping from her usual severe suffering.

11th.—9 A.M. Temperature 99°; pulse 86.

Rested well during the night, and is greatly improved in every respect; pain almost entirely gone; swelling greatly diminished, and deglutition but little interfered with. The recovery would have been speedy and uninterrupted had the patient not injudiciously exposed herself before fully recovered, and brought on a return of the symptoms, which, however, speedily yielded to the former treatment without suppuration or any other unpleasant complication.

The remedy should be applied in *powder form*, by means of insufflation, the solution not having the same beneficial effect as demonstrated in a subsequent case.

MEDICAL PROGRESS.

Inflammation, Suppuration, and Ulceration of the Tongue.—Mr. Bryant read a paper on this subat the meeting of the Medical Society of London held October 23d. He detailed examples of abscess due to injury as well as to idiopathic causes, and showed how this affection has a tendency to get well, and more particularly after an early puncture. He recorded two examples of hydatid of the tongue. The subject of chronic superficial glossitis then received attention, and it was illustrated by cases as well as by a preparation. Superficial ulcerations were then described, and some good examples quoted of the simple dyspeptic ulcer. Ulcers due to local irritation were then described, and cases quoted, in one of which the ulcer had existed for two years, and had been mistaken for a cancer. Deep-seated ulcerations were fully considered, and the differences between the syphilitic, epitheliomatous, and tubercular forms dwelt upon. The tendency for the chronic syphilitic disease of a tongue to pass into cancer was emphasized, and the danger of not fully recognizing the tendency pointed out. The connection between epithelial cancer of the tongue and ichthyosis was demonstrated, and the local character of the cancer noticed. The necessity for the early removal of a cancerous tongue was strongly enunciated, and some good cases quoted in which a long immunity from the disease, if not a cure, had been obtained. The different modes of operation were then discussed, and statistics given of operations, in which the mortality as a whole from the operation was shown to be about ten per cent. Amongst the advantages of the operation was advanced the fact that when a cure does not take place great comfort is given, and that a return of the disease is more likely to occur in the glands of the neck than in the tongue itself. Time not permitting of some remarks being made on tubercular disease of the tongue, it was deferred to another occasion. The paper was illustrated by drawings and preparations.—*Lancet*, Oct. 28, 1882.

Treatment of Cutaneous Diseases by Scarifications.—After diligent study of almost all the cutaneous maladies in which linear scarifications have been resorted to, and after comparing the results obtained from this method with those which have followed the employment of other medical or surgical means—availing himself, moreover, not only of the opinions expressed by the most competent authorities, but also of his own observations in numerous cases—V. Bartoszewicz (*Th. de Paris*, 1882) has arrived at the conviction that in the treatment of many skin diseases, the above-named procedure must be regarded as more prompt and satisfactory in its consequences than any other previously employed.

A rapid improvement and speedy cure, without liability to a return of the disease; white, thin, and smooth cicatrices—such are the advantages offered by this mode of treatment.

In no form of disease, however, are those advantages at once so strikingly apparent and of such capital importance as in the most dangerous, most destructive, and most disfiguring affection of its class—*lupus vorax*.

Not unfrequently, three or four scarifications are sufficent to arrest the progress of the complaint, and after a few months of treatment the cure is complete, the resulting cicatrices being productive of much less defomity than those left in similar cases after any other process.

He is aware that even this method is not without its disagreeable features. The pain it occasions is sometimes quite severe, a troublesome amount of hemorrhage may be produced, and the treatment, now and then, is necessarily protracted, involving a frequent repetition of the process. Yet its incontestable advantages, in the cases to which it is applicable, are so predominant and so far outweigh those derived from any other source, that linear scarifications must take the highest rank among the means of combating many cutaneous disorders, especially those hitherto most difficult of cure.—*Journal of Cutaneous and Venereal Diseases*, November, 1882.

A New Procedure for Making Compressed Sponge Antiseptic.—Notwithstanding the danger of infection from the use of sponges in uterine therapeutics, they are often a very convenient and useful means in the treatment of metritis of long duration, encouraging resorption, acting as a tonic upon a flabby and weak uterus, and more effective under these indications than either tupelo, laminaria, or mechanical dilators. Iodoform was the substance which occurred to Dr. Fraenkel's mind (*Centralb. f. Gynäkol.*, August 12, 1882) as a means of rendering sponge tents aseptic. Two patients were chosen for the experiment—one a multipara with a soft, flabby, easily bleeding uterus; the other a primipara, forty-two years of age, with chronic hyperplastic metritis. The patients were placed in the knee-elbow position, *the uterine cavity* was washed out with a warm three-per cent. solution of carbolic acid, introduced through a uterine catheter, and the tents were next adjusted. They were made of compressed sponge, prepared with cerate, rubbed with salicylated cotton, and were then covered with a thick coating of pulverized iodoform. After they had been introduced, a quantity of iodoformed gauze was placed in the vagina. Violent expulsive pains followed this operation, but no fever. The tents were removed after eighteen or twenty hours, and no bad odor was present. In two other cases the uterus was injected in a similar manner, and in the first of these a further injection of a syringeful of liquor ferri sesquichloridi was made with a Braun's syringe. In the second a like quantity of tincture of iodine was injected. Neither of the patients suffered any evil consequences from this treatment. [We do not think that the author's method of injecting the uterine cavity is to be recommended. With the patient in the knee-elbow position, there was the force of gravity, in addition to the injection force, which might be expected to impel the liquid into the Fallopian tubes, and thence into the peritoneal cavity. That no damage was sustained proves only that these particular patients were capable of enduring heroic treatment.]—*New York Medical Journal*, Nov. 1882.

Ovariotomy; Closely Adherent Intestine; Recovery.—Mr. Roe reports the following case, occurring under the care of Mr. Sidney Jones at St. Thomas's Hospital: Emily B., a married woman, aged 30, was admitted on November 18, 1881. She stated that her father was living and healthy, that her mother died of bronchitis, and that there was no history in the family of tumors. She had never been strong, but had never had any particular illness; she had been married twelve months, but had not had a child. Her present illness began, about six or seven months ago, with pain in the lower part of the abdomen, and she then first noticed a swelling in that position; this swelling gradually increased, but pain ceased about the beginning of November. She had had pain and difficulty in passing motions and urine about three months earlier; but this had also disappeared. Since the beginning of this illness she had menstruated every fortnight; before she was always regular. On admission, the abdomen was considerably distended, and the girth at the umbilicus was 35½ inches. The enlargement was caused by a firm, tense, elastic tumor, softer just over the umbilicus; the surface was smooth, and there were no nodules. The tumor was of rounded form, and occupied more of the left than the right side of the abdomen; it was slightly movable. The percussion was dull over the tumor, with a resonant note in the flanks. A distinct thrill could be felt through the tumor. The urine, of specific gravity 1014, contained no albumen.

November 25th. Since the patient had been in the surgical ward she had had no pain in the tumor. On the first evening the temperature was 100° Fahr.; since then it had not been above 99° Fahr. On this day the patient was operated on by Mr. Sidney Jones. A median incision was made through the abdominal walls; the peritoneum cut through, and the tumor exposed; the incision was prolonged upwards above the umbilicus; the tumor was tapped, which reduced the bulk of it considerably; some slight adhesions were detached by the finger, but in one place a loop of intestine was somewhat firmly adherent. A ligature was passed around the attachment, which was then divided. The uterus was also found adhering to the tumor: the connection was ligatured and divided. The pedicle of the tumor, which was rather broad, was perforated and tied by a double ligature, divided, and returned into the abdomen. The edges of the incision were sutured by deep and superficial stitches. The tumor weighed over eight pounds, and more than six pounds of fluid ran off from it. The operation was conducted antiseptically. The same evening, after the operation, the patient was fairly comfortable, and breathing easily. The pulse was 84, and the temperature 98.4°.

The patient continued to improve, being troubled only by a tendency to constipation. She left the hospital well on January 3, 1882.—*British Medical Journal*, October 28, 1882.

Treatment of Anal Fistulæ by the Elastic Ligature.—At the meeting of the Société de Chirurgie, held September 11, M. Terrier presented some observations on the treatment of fistula in ano by the elastic ligature. He advises the use of the elastic ligature if the fistulæ are only of short extent, if they result from an acute inflammation, and if the bridge of tissue to be divided is not very thick. Occasionally the ligature causes acute pain; the division is very slowly accomplished, and the ligature must be occasionally tightened up. If the fistula is of longer extent, with diverticula, he often employs the linear écraseur; he passes first a thread through the fistula and then the chain of the écraseur.

Chassaignac advocates the passage first of a drainage-tube through the course of the fistula, and allows it to remain several days, and then employs the écraseur to divide the fistula. When vegetations are present they should be cauterized with the thermo-cautery.—*Gazette Hebdomadaire*, October 20, 1882.

Spontaneous Cure of Vesico-vaginal Fistulæ.—Dr. Julius Heyne (*Inaug. Dissertation*, Halle, 1881) writes that the prophylaxis of vesico-vaginal fistulæ depends mostly on careful watching of the bladder during labor, emptying it when necessary, and not allowing too long-continued pressure of the head in one position. After delivery, careful treatment of any tendency to cystitis, and antiseptic, and if necessary, cauterizing, treatment of any ulcerations or sloughs in the vagina. In case a fistula occurs, the first question is when to begin treatment. Here authorities differ greatly, but the author believes that, in cases where the lochia are normal and there is no inflammatory action going on, the sooner the fistula is treated the better. This is perhaps the strongest point in this method. Many ways have been proposed for inducing the spontaneous cure of fistulæ. The most common are drainage of the bladder by permanent catheterization and tampon of the vagina. Substances of all sorts have been used for tampons. The position of the patient has also been considered of great importance. In contradiction of some of the best authorities, the author claims that the *vaginal tampon is of no use*. Its alleged use is, first, to keep the edges of the fistula together. This it does not do, but, on the contrary, separates them. Second, it causes great disturbance to the patient and irritation of

the vagina. Third, it does not prevent the flow of urine through the fistula, but soaks it up or backs it up in the vagina, and thus causes catarrh of the vagina and bladder, and an unhealthy action in the wound. He believes it is best to *leave the vagina empty*. In the second place, his plan for drainage is by a rubber tube inserted through the urethra, not *into* the bladder, but just *to* it, so that the bladder may be permanently drained without having a catheter retained in it. In case of a simple torn fistula, discovered early, this is all that it would be necessary to do. In case of a fistula occurring later, and caused by the sloughing out of a piece of the vaginal wall, the vagina and uterus must be washed out daily with disinfecting solutions and the edges of the fistula touched with stimulants to promote granulation. Two of Prof. Fritsch's cases are narrated in detail to show the advantages of this practice. One was an old case in which several operations had been previously done, the other was a fresh case.

The author concludes as follows: If a fistula is discovered while patient is in the lying-in bed.

The bladder is drained.

The vagina is scrupulously cleansed, but not tamponed.—*Amer. Journ. of Obstet.*, Nov. 1882.

PATHOLOGY OF URÆMIA.—HLAWA and THOMAYER have endeavored to advance our knowledge as to whether uræmia in nephritis is accompanied by any definite anatomical changes, and, if so, what causal connection there might be between these alterations and the symptoms of uræmia. Accordingly, investigations were made by them on twenty-two cases of nephritis, some of which had, and some had not, shown symptoms of uræmia during life; and they have put on record the results (*Wiener Med. Wochenschrift*, No. 39). In all the cases of uræmia the kidneys showed a more or less considerable (generally quite recent) small-celled infiltration; this was not the case with the rest. The infiltration of small cells existed in the neighborhood of the Malpighian bodies, and more especially at that part where the afferent and efferent vessels pierced Bowman's capsule, as well as about the interlobular arteries and the vessels of the renal cortex generally. This cellular new formation compresses the vessels, and so hinders the proper secretion of urine. The authors therefore regard the presence of this inflammatory product as a very important factor in the etiology of uræmia appearing in the course of inflammatory affections of the kidneys.—*Medical Times and Gazette*, October 28, 1882.

EXTIRPATION OF THE UTERUS PER VAGINAM ON ACCOUNT OF PROLAPSE.—DR. DUVELIUS (*Centralb. f. Gynäkol.*, Aug. 18, 1882) reports the case of a woman operated upon by Dr. A. Martin in Berlin. She was forty-six years of age, and had first menstruated at the age of seventeen. At twenty-two years of age she gave birth to a large child, the labor being normal. Thirteen days after delivery prolapsus began to be noticeable to her, and after a time it became excessive. The cervix was amputated afterward, and anterior kolporrhaphy was performed at one sitting, and posterior kolporrhaphy and perinæorrhaphy at another. The operations were complete failures; the parts projected to an exaggerated degree, and had undergone extensive erosion and ulceration. In this condition she presented herself at Dr. Martin's polyclinic. Another anterior and another posterior kolporrhaphy were determined upon; but, when the patient was anæsthetized, the entirely retroflexed uterus was found to be so completely surrounded by the remains of perimetric inflammation that total extirpation alone seemed practicable. After disinfection of the field of operation, incision was made around the remnant of the *portio vaginalis*, which was followed by free hemorrhage. The uterus was then drawn well downward, and an elastic ligature was placed around it. Douglas's pouch was next opened, and the uterus was detached at that aspect with scissors, knife, and fingers. In a similar manner the separation was made anteriorly. The uterus being now dragged forcibly downward, three ligatures were passed upon either side to secure the vessels, after which it was cut away. The stumps of the ligaments were brought down through the wound, and a series of both deep and superficial sutures was passed, securing the cut edges of the peritoneum and of the vagina. The operation was followed by peritonitis, but the patient eventually recovered. Anterior and posterior kolporrhaphy were subsequently performed, and the patient was believed to be entirely cured.—*New York Medical Journal*, November, 1882.

DISPLACEMENT OF THE KIDNEY AS A CAUSE OF HYDRONEPHROSIS.—In these days, when so many and so varied consequences are imagined by some to result from displacements of the uterus, it is not surprising that a surgeon should have thought it possible for displacement of the kidney to lead to occlusion of the ureter. A case is reported in a recent number of the *Archiv für Gynäkologie*, by Prof. KEHRER, of Heidelberg, in which the theory above indicated seemed to him a possible explanation of the facts. But, unlike many theorists, Dr. Kehrer did not accept the hypothesis as satisfactory without putting it to the proof, and on this account his contribution is of much interest. The patient was aged thirty-two, and had a tumor as big as a man's head, which had been first noticed nearly two years previously. It was tympanitic on percussion—a peculiarity which made diagnosis difficult. The abdomen was opened, the tumor tapped (by which gas was let out and fluid drawn off), and then removed, a small portion, the vascular connections of which were too close to admit of its removal, being left behind. The tumor was found to be an enormously dilated kidney, but no obstruction could be found in the part of the ureter which was removed with it. The patient recovered well. In commenting on the case, Prof. Kehrer points out that large hydronephrosis is only met with when there is long-continued, but not complete, obstruction to the outflow of urine, or when the obstruction is intermittent. Absolute closure of the ureter does not produce a renal tumor of great size. Dr. Kehrer's patient attributed her disease to a strain. It occurred to him, therefore, that the strain might have produced a displacement of the kidney, leading to flexion, and consequent obstruction of the ureter. He proceeded to put this theory to the test in the following manner, on the dead subject. He made an opening in the bladder, so that the outflow of fluid from the ureter could be watched, and then inserted a canula into the pelvis of the kidney. All the other abdominal viscera were left untouched. Water was then allowed to flow into the pelvis of the kidney, and the pressure (twenty to thirty centimetres of water) required to make it flow through the ureter into the bladder was noted. Then the upper end of the kidney was loosened from its capsule, and the organ was pushed into a transverse position. This produced no alteration in the escape of fluid. The kidney was then turned so that its pelvis, with the opening of the ureter, looked directly forwards; but this dislocation produced no appreciable hindrance to the flow through the ureter. Dr. Kehrer therefore dismisses, as being without support from fact, the theory that mechanical change in the position of the kidney can, either by compression or by bending of the ureter, lead to obstruction of the flow of urine through it.—*Med. Times and Gaz.*, October 28, 1882.

Ehrlich's and Gibbes's Methods for Detecting the Bacillus Tuberculosis.—M. W. Vignal suggests the following additions to these methods:

1. It is desirable to keep the staining fluid with the cover-glasses, during a quarter of an hour, at a temperature of 40° Centigrade (104° Fahr.). The coloring matter penetrates more thoroughly, and the bacilli are more deeply and equally colored.

2. It is not advisable to mount the preparations in water, but in a solution of gum, mixed with glycerine, prepared in the following manner. Equal parts of neutral glycerine and filtered solution of gum are mixed together; the gum is of the same thickness as the glycerine, and should be, before mixing, heated in a water-bath with a small quantity of arsenious acid, in order to prevent the development of fungi.

3. Aniline dyes, as Dr. Heron observes, are apt to fade very quickly, but those obtained at Merck's Fabrik, Darmstadt, are free from this disadvantage. All chemicals furnished by this manufacturer invariably give the same results.

4. The tissues from which sections are made should be hardened in alcohol only. Chromic and picric acids, also salts of chromic acid, prevent the staining of the bacillus. This method of staining is based on the theory that the tubercle-bacillus is enclosed in a sheath, which, by alkalies, is softened and penetrated (aniline water, which serves as the vehicle for the coloring matter, is a liquid alkali), but is hardened by contact with acids. Nitric acid combines with the coloring matter of aniline, to form colorless and soluble salts; this acid is thus effectual in removing the color from the other elements of the tissue not required to be stained.

It happens frequently that physicians desire to ascertain whether tubercles contain the tubercle-bacillus, but they have not the time at their command necessary for making sections. In such cases the following method may be adopted: divide the tubercle with a bistoury, then scrape one of the surfaces, spread the scrapings on the cover-glass, and treat them in the same way as the sputum. In preparations thus made, there are very few isolated bacilli. They are present in clusters, and examined by a low microscopic power represent red or blue spots; but when a high power is used, each separate bacillus is distinctly visible.—*British Medical Journal*, October 28, 1882.

Treatment of Goitre by Interstitial Injections of Arsenic.—Dr. Grunmach recommends the interstitial injection of a solution of one part of liquor potassii arsenitis to three of water, in the treatment of goitre. In the case reported the tumor was considerably reduced in size and the interference with respiration caused by pressure on the trachea entirely relieved. The solution was injected in amounts equal to one-half or one-third of a Pravatz syringeful, two or three times each week.—*Berliner klin. Woch.*, No. 32, 1882.

Destructive Ophthalmitis in Children.—Mr. Nettleship, at the meeting of the Ophthalmological Society held October 12th, said that the chief object of the paper was to draw attention to the cases of deep-seated disease which more or less closely simulate glioma of the retina in their clinical features. He believed that there were two principal types of morbid change in this class of cases. 1. Iridochoroiditis, either acute and almost purulent, or chronic: the result of either form being inflammatory opacity in the vitreous, with subsequent detachment of the retina, and backward displacement of the ciliary processes by the shrinking of the inflammatory material. Hemorrhage between choroid and retina might occur. 2. Inflammation and condensation of the vitreous (especially in its outer layers), and in some cases also in its antero-posterior axis, probably the result of a chronic severe retinitis, no detachment of retina occurring. Iritis occurred in nearly all cases of pseudo-glioma, and there was often severe inflammation of the eye in the early period of the case. It was particularly as to the causes of these eye-changes that information was wanted. It was not sufficiently known that the condition called pseudo-glioma (whether following severe inflammation of the eye or not) often came on during, or soon after, some severe illness. Whilst in a considerable number the children were syphilitic, measles, whooping-cough, chickenpox, and perhaps pyæmia and sporadic recoverable meningitis, appeared from the cases (published and unpublished) collected by the author to be the commonest antecedent of these eye-changes. He asked especially for evidence as to the nature of the connection between ocular and constitutional conditions.

Dr. Barlow had seen five cases of this disease; three of them with a suspicion of syphilis, to which, however, he attributed no importance, as he could not see any connection. He inclined to pyæmia as the cause of the changes, and mentioned a case of extensive retinal hemorrhage and detachment of vitreous associated with ulcerative endocarditis. In these cases of pseudo-glioma there was often a history of a convulsive attack, with cerebral symptoms, etc. He thought a number of them were embolic.

Dr. Brailey thought that the cause of these lesions was suppurative inflammation of the vitreous, with consecutive absorption. The tension in these cases was not always diminished; he had found it increased sometimes: diminution of tension could not, therefore, be relied on as a necessary diagnostic sign of non-malignant disease.

Mr. Waren Tay pointed out that double panophthalmitis was not uncommon in epidemic cerebro-spinal meningitis.

Dr. Stephen Mackenzie had no experience of this latter disease, but he had never seen cases of panophthalmitis in cases of sporadic cerebro-spinal meningitis.

Mr. Brudenell Carter referred to a very full report on epidemic cerebro-spinal meningitis by Prof. Hirsch—a translation of which would be found in the *Transactions of the Epidemiological Society*. He thought, if there was any connection between the two diseases, cases would be sure to be found in this report.—*Medical Times and Gazette*, October 21, 1882.

Treatment of Placenta Previa.—M. Hofmeier's conclusions and methods (*Zeit. f. Geb. u. Gynäkol.*) claim our attention on account of the excellence of his results. His material consisted of 46 cases, 35 of which were delivered in one year, thus offering an excellent chance to judge of a method carried out by one man in so many cases. In judging of his method he first excludes from the 46 cases 3 who were so far gone from hemorrhage when he arrived that there was no chance for any treatment. Of the remaining 43, in 19 the location of the placenta was central, in 16 lateral, and in 8 marginal—a very large percentage of *central*.

The usual rule of treatment is to tampon until the cervix is sufficiently dilated. This rule the author opposes. He scarcely ever uses a tampon, and as to the cervix his rule is only to wait till clear symptoms of labor set in, either in uterine contractions or a funnel-shaped dilatation of the cervix. He then proceeds as actively and early as possible. This rule was followed in 37 of the 43 cases, after poor experience in other methods with the rest. In 19 cases the cervix was partially or wholly dilated, in 18 either entirely closed or with only a funnel-shaped dilatation. The earlier the operation the more of necessity is the choice lim-

ited to the combined external and vaginal version with one or two fingers, the Wigand-Braxton-Hicks method. This was done in 30 cases, the foot was brought down in 3 breech cases, three times internal version was performed and once the forceps applied. The combined turning was practised as long as possible, and the hand introduced into the uterus only when absolutely necessary. The feet having been guided to the os, are seized, and by firm traction the buttocks effectually stop the hemorrhage. In cases of central position of the placenta, the author, in spite of all the arguments against it, is in favor of perforating the placenta and bringing the feet through. He did it in five cases, in 3 of which it was necessary on account of haste and in 2 of which the child was already dead. It gives the mother the best chance, and the child's chance is by any method in such a case extremely small. The rest of the delivery, the author expressly states, should be *slowly* accomplished. The condition of the child may modify this rule, but even this must not make us increase the mother's risk. "One must have the courage to let a doubtful child's life be lost in his hands, rather than subject the mother to increased danger. The child is to be delivered *slowly*. Even so, the author's results were not bad as regards the children. Of 37, 17 were already dead; of the 20 still living, 6 died (3 premature, and 3 from perforation of the placenta). Altogether 63 per cent. died and 37 per cent. lived, which is up to the usual standard. The statistics of the mothers, however, are much better. The author considers in them not only the immediate result, but the after-course of the case. In each case ergotin was given subcutaneously during extraction and the uterus was washed out afterwards with a five per cent. carbolic solution.

Of the 37 patients treated by these rules, *one* died. She had been treated for 24 hours by tampon, and the placenta was foul and offensive when the delivery took place, and she died 17 days after from phlegmon and phlebitis of the thigh. Hofmeier believes she would have surely been saved if action had been prompter. This one case, out of 37, gives a mortality rate of 2.7 per cent., far ahead of any published rate, others having been 10 per cent., 16 per cent., and 40 per cent. After-hemorrhages occurred in some cases, but none which could not be controlled with ergotin, iced and hot-water injections. Of the 6 cases treated at an earlier date, and by the *waiting* method, one died: two had a long, severe lying-in; 4 children were dead. Of the whole 46 cases, therefore, 5 died; 10.8 per cent. The author adds two useful hints as to the location of the placenta. In nearly central location the smaller portion is on the side which is more loosened from the cervix lip. In placenta previa lateralis the proportion in favor of the right side is about 11:4.—*Amer. Journ. of Obstet.*, November, 1882.

Ovarian Cyst Suppurating after Parturition: Hyperpyrexia: Ovariotomy: Recovery.—Dr. W. H. Day reports the case of a woman whom he saw in the fourth month of pregnancy with a vaginal tumor probably ovarian in character. She went to full term and was delivered of a living child. When seen one month after delivery she was suckling her child at the time of his visit, but in a few days she was obliged to discontinue it. The abdomen was greatly enlarged and pendulous. The swelling previously mentioned in the vagina had disappeared, and nothing abnormal here could be detected. Over the abdomen, from the umbilicus to the pubes, the percussion-note was dull; above this the note was tympanitic; turning on the right side of the abdomen elicited resonance on the left, and *vice versa*. He considered that there was a large flaccid non-adherent ovarian cyst, containing a thin fluid. The patient was rapidly losing flesh and strength, and looked very ill. Pain and pyrexia were considerable; but, as she had been only confined a month, and there were no symptoms demanding immediate interference, he advised that the operation should be postponed, and the patient carefully watched.

On visiting the patient three weeks later he found her in great pain and unable to move, as peritonitis had been present for some days. He advised that the patient should be kept as quiet as possible, and under the influence of enough opium to subdue pain. He pointed out the necessity of waiting a little to see whether the temperature would fall before having recourse to ovariotomy; tapping, in his opinion, being out of the question. If, however, the patient should become worse, he recommended that the operation should not be delayed, even though the temperature should continue high. For the next few days, the temperature fluctuated between 99° and 102°, and the patient was obviously going from bad to worse.

On July 11, Mr. Spencer Wells, with the assistance of Dr. Emmett, of New York, Dr. Godfrey, Mr. Meredith, and himself, removed a large multilocular ovarian cyst. The cyst was very thin. Extensive adhesions to the abdominal wall and to the omentum were separated, after the cyst had been emptied of a large quantity of turbid flaky fluid, not at all fetid. The pedicle was secured by ligature, which was returned. The left ovary and uterus were healthy. On the third day after the operation, Dr. Godfrey reported that the patient was going on well. Temperature 99°; pulse 94; pain diminishing.

Mr. Spencer Wells removed all the stitches on the ninth day. The wound had healed perfectly by first intention, and the patient went on recovering without interruption. The case is a very striking example of the subsidence of fever, as soon as the cause of the fever had been removed.—*Brit. Med. Journ.*, Oct. 28, 1882.

Treatment of Phagedænic Chancres by Injections of Nitrate of Silver.—Prof. Thiersch (*Centralb. f. Chir.*, No. 27) has been making some experiments with this mode of treatment, and claims that it yields very satisfactory results, though the method should be reserved for the gravest cases, since the injections are so painful that it is necessary to chloroform the patient. A solution of 1 in 1500 is employed, and the injection should be thrown into the thickness of the derm, and not under the skin; the quantity to be injected is 1 c.c., and the injections should surround the phagedænic zone, and be about 1 cm. apart. They should be repeated every week, though occasionally one series of injections will be sufficient to produce a cure. The pain may be allayed by the application of a bladder full of ice.—*Gaz. Méd. de Paris*, Oct. 21, 1882.

Absorption by the Skin of Substances dissolved in Water.—At the meeting of the Académie de Médecine, held October 3, 1882, M. Aubert read a paper with the above title, of which the following are the conclusions:

1. Certain substances dissolved in water may penetrate the skin without their being any external or apparent abrasion of the latter.

2. It appears, however, that there must always be some loss of continuity in the epidermis of the sheaths of the hair bulbs.

3. Absorption is always most active in hairy regions.

4. It is favored by all circumstances, such as friction, which favor injury to the hair follicles.

5. No absorption can take place from medicated baths, no matter how prolonged, unless friction is employed at the same time.—*L'Abeille Méd.*, Oct. 9, 1882.

The Milk of Intemperate Women.—The statement of a correspondent of the *Lancet* that the milk of drunken women contains enough alcohol to burn, raises several very interesting issues. First, as to the presence or absence of alcohol in normal human milk. It is, of course, well known that koumiss is an alcoholic liquor prepared from milk by vinous fermentation of the lactose; the change is a slow one, lactose being of all sugars the least susceptible of fermentation. In the milk of the cow and ass, even when freshly drawn, alcohol was found by Béchamp, the alcohol increasing if the milk was allowed to set. This, of course, suggests the same origin for the alcohol as in the case of koumiss. With regard to human milk, the presence of alcohol, even if found, would suggest a similar explanation, but its presence has never been proved. Still, the wife of the working man is not the first person who has made assertions as to the alcoholic milk of alcoholic mothers. On examination, however, these assertions are seen to be founded not on chemical analysis, but on statements as to the effects of the milk on the infant. In an adult these would, of course, consist of exhilaration, followed by swimming eyes, inarticulate speech, unsteady gait, "dyskinesia" (uterine, no doubt, in female children), and even inability to stand. We may observe many, if not all, of these symptoms in most infants at the breast; and, indeed, in this way the inability to recognize one's own father might be taken as evidence of double vision. Is, then, the whole infant population to be regarded as more or less permanently drunk? Again, evidence may be obtained from the remoter effects of alcohol. We have heard a story of a child who died of cirrhosis of the liver from the prolonged exhibition of steel wine; but we may safely affirm that if even a trace of the alcohol constantly imbibed by a larger portion of nursing mothers were to find its way into their milk, specimens of infantile cirrhosis would be far from rare. On the other hand, there is no doubt that some of the alcohol of alcoholic mothers not unfrequently finds its way into the system of their infants by a more direct route than the milk. Setting aside, therefore, the question of alcoholic human milk as contrary to fact, one question still remains—namely, that of the general effects of alcoholic drinks on the milk of nursing women. To this question no short answer can be given. It may be stated at once, that the diet which ensures the best state of health and nutrition also ensures the best milk, but that no hard-and-fast rule can be laid down on the subject. Overfeeding, as well as underfeeding, will often impair both the quality and quantity of the milk. It is, however, as in so many other questions, highly unscientific to lump all alcoholic drinks together, seeing that in those most generally useful, the alcohol is by no means the principal ingredient. To put gin and mild beer and claret together is to collect strange companions, who have indeed, a common property, but little more. We are, however, within the mark in saying that, special medicinal questions apart, no nursing woman should drink spirits; that the less stimulant she can take (consistently with good health) the better; but it is no less true that in mild malt liquors, and especially in sound porter and stout apparently from the special preparation of the malt, we have a very simple and excellent stimulant to the lacteal secretion in many cases where it flags, and even in some cases where malt alone or other stimulants have failed. Of the impoverishment of the milk of women whose health is impared by drinking there can be no reasonable doubt, and too much can hardly be stated in this respect. We quite agree with the blue ribbon orator so far as this, that if all nursing mothers were teetotallers it would be far better for the totality of British babies. In saying this, however, we must add that some infants would, in our opinion, be the worse: but that, on the principle of "the greatest good for the greatest number," more would be benefited than injured. If only those nursing mothers took stimulants whose health was really improved by them, it would be better still. There are facts which seem to show that alcoholism produces in some women a functional or temporary sterility. On this question, being beside our present subject, and also as not unlikely to serve as an incentive, or at least an excuse, for intemperance, we will not enter. Is it not somewhat of an irony of fate that the teetotal cow and ass should produce alcoholic milk, while the alcoholic human female produces none?—*Lancet*, October 28, 1882.

Treatment of Meningitis in Children.—M. Vovard, at the recent Congress at Rochelle, made a communication on the mode of treating meningitis in children. Three different morbid processes may occasion meningitis in children; the inflammatory process, strumous processes, or tuberculosis. According to him the frequent occurrence of cure in meningitis leads him to conclude that it is not ordinarily of a tubercular but rather of a strumous character.

He recommends the following line of treatment: at the onset of the disease he prescribes iodide of potassium, and after shaving the head, applies croton oil until a pustular eruption is produced, and then maintains free suppuration, which he believes should be continued until the case is no longer in any danger.—*Rev. Scientifique*, October 28, 1882.

The Treatment of Ununited Fractures of the Bones of the Arm.—Mr. Robert Jones reports three cases of ununited fracture, one of the radius, one of the ulna, and one of the surgical neck of the humerus, in which he employed with success the method known to the medical profession as that of percussion. Of this there are two varieties. The one consisting in severely percussing the limb over the seat of fracture at long intervals; the other in its daily, but gentle performance. Whichever plan be adopted elastic bands should also be tied above and below the fracture to induce local congestion and thereby facilitate the reparative process. More especially is this necessary at nighttime when the circulatory system is less active than during the day. The hammering is performed with an instrument covered by an India-rubber cap, so as not to lacerate the soft structures. In its absence, however, anything almost will suffice. In Case 1, the bone being somewhat deep seated, he adopted the method of severe hammering, which he performed once a week. The patient tolerated it very well and complained but little of the pain, although the India-rubber tubes tied around his arm at night made him very restless. He applied no splints, but merely permitted the carriage of his arm slung in hammock-like fashion. This lasted five weeks. After each beating a good deal of swelling and even some contusion marked the occasion. At the end of the fifth week, having noticed a decided thickening of the ends of the bone, he applied splints for four weeks, removing them in time to find union complete. Case 2 is more interesting because more rare. In treating the patient he dispensed with the elastic tubes, and the bone being superficial it was, of course, better to try the gentle mode of percussion than that adopted in Case 1. Accordingly he hammered twice a week and kept the splints firmly applied. In a little over four weeks union was firmly established. In both these cases the treatment gave the patients hardly—if indeed any—more inconvenience than they had already endured. Case 3 differs from the others in being a less confirmed non-union. The patient was ten weeks in splints after

a primary delay of nine days; and it is impossible to say but that another month's continuance would have produced union. He thought it best, however, not to trust to this alternative, and, using his fist for a hammer, he worked away twice a week for nearly two months, with completely satisfactorily results. He mentions that the elastic tubes may be applied immediately after the gentle method, but it is best after the severe mode to wait until the local irritation commences to subside, and thereby prolong it. Should the contusion be very marked, it would, of course, be unwise to apply them at all. As a matter of detail, he adds that the tubing should not always be tied to the same spot, or else ulceration may result. Generally speaking its application at night-time is quite sufficient, and affords the arm very acceptable respite during the day.—*Lancet*, October 28, 1882.

A NEW TREATMENT FOR PURULENT CONJUNCTIVITIS.—The treatment MR. H. L. FERGUSON has been using at the Dublin Infirmary for many months past consists in constant cleansing with an iced 4 per cent. solution of boracic acid, and when the more acute stage is over, touching the conjunctiva with a 10 grain solution of nitrate of silver subsequently neutralized with a solution of salt.

The results with this treatment were on the whole satisfactory, his observations coinciding with those of Mr. Simon Snell, published in the *Ophthalmic Review* for October; but convalescence was slow.

It occurred to him that if the boracic acid were applied to the conjunctiva in a finely powdered state its action would be quicker and more certain, and its application in this way seemed to be free from the objections to iodoform.

Briefly stated, the results of his observations have been: 1. That the application of the finely powdered boracic acid to a discharging conjunctiva checks the discharge completely for a period varying from two to twelve hours, and in the milder cases the first application is sufficient to stop the discharge altogether. 2. When the discharge reappears it is usually less in amount and more watery in character, and a very few applications of the powder stop it entirely. 3. The conjunctiva is then red and succulent but dry, and if touched two or three times with a solution of nitrate of silver it rapidly returns to its normal state.—*Ophthalmic Review*, November, 1882.

NEW TEST FOR THE DETECTION OF ALBUMEN IN URINE.—DR. GEORGE JOHNSON, F.R.S., of London, is now using picric acid for the detection of albumen in the urine. This test was suggested to him by his son, Mr. G. Stillingfleet Johnson, who has long labored at chemical research, and believes that the test is free from fallacy. A saturated solution of picric acid has a specific gravity of 1003, and immediately coagulates any trace of albumen which may be present in the urine to which it is added. The delicacy of the test is strikingly demonstrated when slightly albuminous urine is poured on to the surface of nitric acid and the picric acid solution is added on the surface of the urine. An obvious advantage of the test is that the powdered picric acid may be so conveniently and safely carried in the pocket ready for the immediate and efficient examination of any urine suspected of being albuminous. It is only necessary to throw some of the powder into the suspected urine while it is warm, and to agitate slightly, in order to produce an obvious cloudiness if any albumen be present.—*Boston Medical and Surgical Journal*, November 9, 1882.

TREATMENT OF TYPHOID FEVER.—PROF. KAULICH (*Jahrbuch f. Kinderheilkunde*, xvii.) has obtained excellent results in the treatment of typhoid fever by the employment of the wet pack and quinia; he believes that it is on account of this method of treatment that he has not lost a single child from the disease under his care. In the first hours of the afternoon when the temperature is commencing to rise, he wraps the child in a wet sheet, and while rubbing the child vigorously renews the cold water sufficiently often to prevent the sheet becoming warmed. Sulphate of quinia is then given in doses, varying with the nature of the case, of from fifty centigrammes to two grammes.

This mode of treatment always reduces the temperature, sometimes below normal. M. Kaulich does not believe in delaying too long the return to nourishing food, as he finds that by early feeding the duration of convalescence may be considerably shortened.—*Rev. Scientifique*, October 28, 1882.

ON A PUPILLARY PHENOMENON OBSERVED IN CERTAIN PATHOLOGICAL CONDITIONS IN EARLY CHILDHOOD.—In certain affections of early childhood, with or without convulsions, with or without appreciable lesions of the brain, PROF. PARROT shows that during the period of coma, which is constant, pinching the skin, particularly in the epigastric region, causes a momentary, marked dilatation of the pupil. This effect is most marked in the following lesions of the nervous centre: tubercular meningitis, hemorrhage under the pia mater, chronic hydrocephalus, and in other conditions where there is cerebral compression. On the other hand, in other morbid conditions where coma exists without convulsions, the pupil, which is usually contracted, does not dilate on pinching the skin.

M. Parrot reports twenty-two observations bearing on these two conditions, and gives the following as his practical conclusions therefrom. A child in a comatose condition, whether suffering from convulsions or not, and in which the pupils do not dilate on pinching the skin, is not attacked by meningitis or submeningeal hemorrhage, he is in an advanced condition of asphyxia, and his death is imminent.—*Revue de Médecine*, October 10, 1882.

GRAVES'S DISEASE, COMPLICATED BY OPHTHALMOPLEGIA EXTERNA.—DR. FRANCIS WARNER read a paper on this subject at the meeting of the Royal Medical and Chirurgical Society. The patient was a woman twenty-five years of age, and was the subject of Graves's disease of four years' standing. There was a marked mental excitability, and she was frequently attacked with gastric crises, vomiting, dyspnœa, and palpitation. Both eyes were nearly immobile, a condition not accounted for by the proptosis; this had existed five months before admission into hospital. Limitation of movements was not equal in the two eyes, and was greater in the horizontal than in the vertical directions; double ptosis was marked. There was also bilateral paresis of the seventh and fifth pairs of nerves, and marked tremor of the legs. There appeared to be no evidence of syphilis. Under treatment the goitre subsided, and the general condition greatly improved, but the ophthalmoplegia remains. The unequal amount of paralysis of the two eyes is taken as some evidence of an independent nerve-centre for the movements of either eye, and this is supported by observations in infants in deep sleep and adults in coma, when either eye may be seen to move separately and independently. Again, the greater limitation of movement in the horizontal as compared with the vertical direction is pointed out as probable evidence that separate centres govern these movements respectively.—*Lancet*, October 28, 1882.

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INSANE IMPULSE.

ALMOST daily there occurs in some part of this country a startling crime whose motive exists in an insane delusion. In that devotion to liberty which closely approximates to license, we are unwilling to permit any one to be deprived of his freedom who has any possible claim to be regarded as sane. A writ of *habeas corpus* is always attainable by those who have the means to employ acute attorneys and to fee willing experts. The result is that the most dangerous lunatics are constantly at large—for those are most dangerous who to good address, education, and a proper purpose in life, add a delusion which to them seems in the nature of a mission. Such a man soon learns that his view, or his "mission," exposes him to the mistrust of those about him; he becomes very artful in concealing it, but none the less nourishes his purpose in secret.

If such a person can talk intelligently on ordinary topics, especially on affairs of business, and is not induced to talk on his particular delusion, he will appear sound to those who are not aware of this delusion, and physicians unfamiliar with such cases will be readily found to testify strongly in favor of his sanity. Such an example occurred a few days since in New York. A man confined in an asylum for delusions which had led to homicidal attacks, was brought out on a writ of *habeas corpus*. The asylum physicians testified to the existence of delusions of a most dangerous character, but two physicians who appeared to be ignorant of the commonest knowledge of mental disorders, and who are unknown as experts, came forward to swear him sane. One of them, after hearing the testimony of those who had had the lunatic in charge, asked to have the opportunity of re-examining him. The Court gave the necessary permission, and after concluding his investigation the pretended expert was again put on the stand, when he admitted the existence of delusions, but still adhered to his original statement that the prisoner was sane. He appeared to regard him as sane because he could talk intelligently on various topics, and the delusions did not affect his reason and judgment on ordinary matters!

That a physician without any acquaintance with the subject of mental disorders, and simply because he is a physician, should be listened to gravely by a court as an expert, is surely a remarkable phenomenon. That any physician should not know the significance of delusion as an evidence of mental unsoundness, is hardly less astounding. Every lawyer will admit that the existence of a delusion is proof of insanity. The error into which some uninstructed physicians fall, consists in the inability to differentiate between illusion or hallucination, and delusion. A man may have an illusion or hallucination, and yet be able to correct it, but it becomes a delusion when his reason and judgment accept it as real.

A man with a delusion associated with destructive notions, is a most dangerous person, although quite able to appear rational on ordinary subjects. He is the more dangerous because he cannot be confined in due process of law, or if confined can obtain a writ of *habeas corpus* and on the trial of his sanity, procure pseudo-experts by the score to swear him sane. Every day there occur appalling instances of the danger to the public, of giving liberty to such subjects. A few years ago a physician of Milwaukee, was called at night-fall to his front-door by a woman, who rode up in a great hurry in a carriage. As he spoke to inquire her errand, she shot him dead. She was insane, and by mere accident seeing his name in a paper, associated it with some delusion she cherished, although he was an absolute stranger to her, and to her history. Our readers will recall many examples. During the excitement incident to the Guiteau trial, several lunatics moved by deadly purposes, appeared in Washington. We have, heretofore, set forth the well-marked distinction between such lunatics and the men of the criminal class to which Guiteau belonged.

Suicidal purposes are usually entertained by the melancholic. Weighed down by a mountain of grief and supposed wrong, or oppressed by the prospect of a life filled with horrors, they gladly seek a relief from miseries which death alone can

cure, consoling themselves with the idea of the Greek anthology:

"Why fear ye death, the parent of repose
That brings relief to penury and to pain?
His presence once, and only once, he shows,
And none have seen him e'er return again."

In such melancholics the purpose may be only half-formed—barely, indeed, conceived as desirable, and yet at last a sudden impulse sweeps away all counter considerations. The final motive cause may be very trivial indeed, but in the storm of emotions aroused by it all voices are silenced but the cry for the peace of the grave. So small indeed seems the departure from a healthy mental state in such cases that he would be a bold man who could pronounce for seclusion and proper restraint. Furthermore, our notions of allowing the largest liberty to individuals, and the clamor of an irresponsible press with its oftentimes ignorant writers and vituperative criticisms of the conduct of scientific men, constantly oppose action for preserving the safety of society. In respect to this, as to many other evils of our time and civilization, the only hope is in the more general spread of knowledge. The time may come when properly qualified experts will pass on these questions, and press and public will alike accept their decision as final. Meanwhile the number and character of the homicidal and suicidal acts which occur in every community, due to insane impulse, demand a suitable remedy now. It is to be found in a more careful study of these cases, in wiser regulations as to the release of the insane from confinement, and in a more rigid definition of an expert.

DOCTOR ZAY.

FOR centuries a great variety of physicians have figured in fictitious literature. Few writers who attempted to display human life have found it possible to omit all mention of the useful, if not essential, personages who superintended the most important entrances and exits of their heroes or heroines. The medical men have fared on the whole but indifferently well, and, generally through ignorance, have more often been caricatured than truthfully portrayed. Between the biting sarcasm of *Le Malade Imaginaire* and the photographic accuracy of *Middlemarch*, there have been many attempts at depicting the life or character of physicians, most of which, viewed from a professional standpoint, have been lamentable failures. Surely, however, for unlearned assumption of technical knowledge and for innate improbability this latest work of Miss Phelps is entitled to the palm. "Boston women must have an outlet," says one of the *dramatis personæ* of this remarkable production; but let us hope that in the future it may be found in some other direction. We do not believe that even Boston ever produced such a hybrid; such an absolutely inconceivable combination of antagonistic qualities as the female homœopathic physician who figures as the heroine. Young, beautiful, graceful, cultured, sympathetic, her eyes filling with tears at the mention of a lost relative, at the story of a deluded girl, or at the death of a pauper baby, she sets compound dislocations, ligates wounded arteries, hauls drowning men out of mill-dams and resuscitates them, wrests revolvers from maniacs, and fairly revels in an atmosphere of blood, ether, diphtheria, scarlet fever, delirium tremens, and sugar pellets.

If ever love-making was pursued under difficulties it is in this volume. Mr. Waldo Yorke, who began his courtship with what she tells him was a "beautiful dislocation," several severe flesh wounds, and concussion of the brain, kindly has a secondary hemorrhage, and after she has "firmly and fearlessly" arrested that, has only strength enough left to say "Write to my mother. Don't say you are not a man; only say you are not an allopath;" after which he faints—as he deserved to. This, however, is a mere prelude. She attends him through a dangerous illness, consulting by telegraph with a world-renowned homœopathic surgeon of Bangor, whose identity is carefully concealed, and then proceeds to annoy him in various ways.

Whenever he becomes affectionate, her face settles "into an intent and studious form, like a hardening cast," or lights up "with the fervor of the symptomatologist." When she grasps his hand, a procedure not unattended in ordinary love-making with immediate retaliation, he of course feels momentarily encouraged, but without reason; "she lays it down again as if it had been a bottle or a bandage." When she manipulates his ankle and he naturally manifests some excusable warmth, she orders him "one powder dry on the tongue every four hours;" when she takes him out driving, she leaves him to go in and "sew up enthusiastically" a "severed femoral muscle," while he nauseates over the smell of the ether which pervades even the outside atmosphere, and when she rejoins him she views him with a "cool, scientific eye" which, under the circumstances, must have made him tremble for his own femoral muscles. She orders him on different occasions, usually in response to affectionate advances, *cham. 5 m.* and *ars. 2 m.*, and *carbo vegetabilis*, and once "after a silence fraught with significance," says she believes she'll give him "nux." There is no record, however, of her carrying this terrible resolution into effect. She even accuses him, when his eyes burn with ardor and the "values of his face are deepened," of having "a cinchona look;" and when he musters up courage to announce his love, she tells him it is a "nervous sinking-turn," and "without perceptible hesitation"

takes out her medicine-case, the contents of which on this one occasion he repudiates. She finally, of course, consents to leave her practice, which in a small country village averages about fifty visits a day and nets her five thousand dollars per annum, to go as his wife to Boston, with the stipulation that she shall continue to relieve suffering humanity and go out when the night bell rings, or oftener if she chooses.

Justice compels us to admit that Miss Phelps has endowed her with certain characteristics by which we recognize the genuine homœopath. When little Johnny Sanscrit is apparently about to die with diphtheria, she says it is because they did not sooner send off Dr. Adoniram, the "allopath," whom she has previously told her patient she would not trust, and adds bewailingly that "that is too often the way; the patient comes into *our* hands just in time for us to sign the death certificate." Subsequently, however, she is consoled, as Johnny recovers, owing to "a remarkable adaptation of *Lachesis*." She also speaks of herself as the "woman healer," and, indeed, throughout the book, is not at all modest about her professional attainments.

Miss Phelps is a story-teller of no mean ability, and the feminine side of Dr. Zay's character is finely outlined and attractive, but its attempted combination with masculine qualities unusual even in men, and with an offensive display of what the author absurdly imagines to be "unquestionable learning," makes her a ridiculous impossibility—"a faultless monster whom the world ne'er saw."

THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE AND THE ARMY MEDICAL MUSEUM.

A GENERAL regret has been felt by the medical profession that Congress adjourned without making provision for the safe keeping of these important collections. The building in which they are placed is not only insufficient in size and too frail in construction to bear the necessary weight, but it is perilously unsafe, both in itself and its surroundings, in case of fire. It is melancholy to reflect that the largest medical library in the world and the rich accumulations of the museum might disappear utterly in the conflagration of an hour. No physician needs to be told of the value of the library or of its remarkable opulence in medical periodicals, but Congressmen are perhaps not generally aware of the *national* character of this collection and that it is the great mine of knowledge to which the profession of the whole country resort at need. Its destruction would be a loss which no money could replace, and it is earnestly to be hoped that in the coming session an appropriation may be made to provide the fire-proof building asked for by the Surgeon-General.

We have been told that objection has been urged on the ground that the Congressional Library will before long be provided with new quarters, and that the library of the Surgeon-General's office should be consolidated with that collection. Next to its destruction, no worse calamity could befall it than such a change.

Its successful management and the marvellous rapidity with which its stores of learning have been collected are due to the knowledge and zeal of its *medical* administrators. If removed from the control of the Surgeon-General and added to the ponderous accumulations of the Library of Congress, its especial character will disappear, and it will become, like the medical sections of the great public libraries of Europe, of comparative unimportance and of little availability. Every travelled physician knows that in the great cities abroad it is the exclusively medical libraries which attract him. If in London he would not bewilder himself by an excursion to the reading rooms of the British Museum in search of professional lore, but he would straightway proceed to the library of the Royal College of Surgeons, the Royal Medical and Chirurgical Society, or some other purely medical collection.

It is the clear duty as well as interest of the profession to bestir itself in this matter. Let every physician who can, either in person or by letter, convey his views to a senator or congressman, urge upon him the importance of providing a fire-proof building for the library and museum (which ought never to be separated), of keeping the library under the control of the Surgeon-General, and of providing for the completion of its index catalogue, the usefulness of which can hardly be overestimated. Whatever is to be done in the way of acquainting Congress with the opinions and wishes of the medical profession on this matter, should be done within the next three or four weeks, for it is the winter for the short session, and after Congress has met the members will as a rule be too busy to attend to any new business. The House Committee on public buildings and grounds, before which the Surgeon-General's application for a fire-proof building comes, is composed as follows: William S. Shallenberger, Pennsylvania; J. H. Lewis, Illinois; M. E. Cutts, Iowa; M. L. DeMotte, Indiana; J. A. Scranton, Pennsylvania; Nicholas Ford, Missouri; J. Hyatt Smith, New York; Philip Cook, Georgia; J. W. Singleton, Illinois; H. A. Herbert, Alabama; Lewis Beach, New York.

POST-GRADUATE COURSES—CLINICAL OR DIDACTIC.

THE recent development of post-graduate instruction may be due to the expressed and implied needs of young practitioners unfamiliar with the mechanical details of their work, or of older practitioners become rusty, or to the restless ambition of rising

experts, eager to make their way in the most profitable sphere of professional activity. The man who has recently graduated, how high soever his social position may be, how suave his manners, how earnest his purpose, finds that some practical knowledge is necessary to his success; and the rising expert has a keen desire to recommend himself to the favorable consideration of those from whom his future patronage must be largely derived. The former has, after unpleasant, often mortifying experience, learned what he requires to recommend him, effectively, to the public, and the latter for satisfactory reasons of his own is solicitous to instruct him in the much-needed information. Thus we have two powerful motives for the organization of post-graduate schools.

The questions to be determined at the outset are, what is most useful to the physician anxious to qualify himself? In what mode may he best attain to the necessary qualifications? To answer these questions satisfactorily, the kind of practice to be pursued must first be determined. Does the physician desirous of obtaining knowledge, intend to engage in a general or a special practice? If the former, he must have a well-grounded knowledge of the whole field—if the latter, he may confine his efforts to the particular section which he intends to cultivate.

In New York, the post-graduate idea has taken two directions. One school combines lectures with clinical and practical demonstrations; the other deals exclusively with clinical work. In a recent editorial, we decidedly commended the efforts made by our New York *confrères* to give practical direction to the two ideas of post-graduate instruction. But we are of the opinion that much of this method of instruction should be introduced into the regular sub-graduate curriculum, and that without the knowledge that is thereby obtained, a student is not fitted for graduation. The tendency of medical teaching now is to adopt this view and to supplement the didactic lectures with practical and clinical demonstrations in which the students themselves take an active part.

Recognizing the great need of practical eye, ear, and hand training, as a means of fitting the medical man for the work of his profession, Harvard and the two leading medical schools of Philadelphia have regular exercises in laboratory and hospital to secure this to each person. In every department—in clinical medicine, operative surgery, chemistry, materia medica, and physiology—each candidate for the doctorate is taught practically in the best sense of the word. At the Jefferson Medical School and at Harvard there is also an obstetrical laboratory, in which the principal obstetrical and gynæcological operations on the female cadaver are performed in the regular curriculum, in the same way as on the living subject. At the University of Pennsylvania this course is embraced in the spring session, and we are informed that plans are being matured by which each student before graduation shall receive instruction in practical obstetrics at the bedside. The students are thus enabled to carry on investigations, and to perform operations, which in respect to the living subject, they are permitted to witness only. When each student or graduate performs in its entirety, the various operations on the cadaver, he must be much better instructed than he who merely witnesses or assists the surgeon performing them. Indeed, we believe that the most careful surgeons perform on the cadaver any delicate operation, before cutting the living.

In the methods inaugurated for post-graduate instruction, there should be a combination of the clinical with the practical work in laboratory. Hence we fear that a merely clinical school will not accomplish the same good purpose.

New York has certainly taken the initiative in the organization of schools, devoted solely to the instructions of graduates. Philadelphia has for several years provided suitable courses—as we have seen—for the same purpose, in connection with the existing medical colleges, and at the numerous special hospitals. It would also certainly be doing injustice to the Western schools if we failed to recognize the work which they are doing in the same way. Rush, the Medical College of Ohio, the University of Louisville, have provided excellent systems of post-graduate instruction, to which the profession has had access for several years. *Palmam qui meruit, ferat.*

IN connection with the opening of the course of lectures at the Washington Training School for Nurses, on October 23, Dr. D. W. Prentiss, of the faculty of instruction, in his address touched upon three points which are of no little interest.

The want of any means of systematic instruction for male nurses is felt everywhere. We do not know of any place which affords such instruction for men. Their only opportunity to acquire knowledge is in the school of experience in our hospitals. Surely if women have benefited so much by systematic training, men would find even a still greater benefit. A much larger number of men are engaged in nursing than is generally believed, and the services of the best of them are in constant and urgent demand. Yet in the proper sense there is not in any, even of our large cities, a single "trained" male nurse.

Dr. Prentiss also stated that the project of a "Home" which would also serve as a suitable place for a directory for nurses, seemed to be practicable in the near future. He quoted at length from the

circulars of the Philadelphia Directory, to show the need and the usefulness of such an institution. We shall be glad to chronicle its establishment in Washington, where the presence of so large a floating population would make it so especially desirable and useful.

By the way why do not all our Training Schools have formal "commencements?"

We are glad to see that Dr. R. B. Burns of this city, was acquitted in a malpractice suit brought to recover damages in a case of encysted tumor of the breast on which he operated. Not the slightest evidence seems to have been adduced to show that his judgment was not good and his treatment not eminently proper. But none the less does such a suit involve large loss of time and practice and considerable outlay of money and a worriment and annoyance which to most men are more harrowing and wearing than aught else.

REVIEWS.

The Treatment of Diseases by the Hypodermatic Method. By Roberts Bartholow, M.A., M.D., LL.D., Professor of Materia Medica and Therapeutics in Jefferson Medical College. Fourth edition, revised and enlarged. 12mo. pp. 365. Philadelphia: J. B. Lippincott & Co., 1882.

Jason planted the dragon's teeth and an army represented their fructification. The history of planting the conception of the hypodermatic syringe forms the introduction to the writer's thoughts on hypodermatic medication, and lo! what a progeny of chapters follow: over three hundred good-sized pages, in which more than twenty medicinal substances receive notice. Completeness and succinctness characterize the book. Morphia and atropia receive an exhaustive account of their physiological and therapeutical action. The antagonistic effects of the latter drug with physostigma, pilocarpine, muscaria, bromal hydrate, and aconite, will give an idea of the wide range of subjects covered. The thoroughness of each article bears witness to the learning and research of the author. It is an epitome of the subject and much valuable information can be gained by its perusal. But as few things in this world can be said to be complete, we notice that although the hypodermatic use of pilocarpine is discussed in relation to its efficacy to abort malaria, no allusion is made to the use of chloroform, an agent which has been employed for the same purpose and reported on by the late Dr. Berens, of this city. The size of the volume has been increased by the introduction into some of the chapters of material more appropriate in a general treatise on therapeutics. Considerable space has been given to the toxicology of special drugs, as, for instance, morphia and atropia, and the directions for the use of strychnia in spinal affections do not apply only to the hypodermatic use of the drug.

Clinical Lectures on the Diseases of the Nervous System. By Thomas Buzzard, M.D. Lond., etc. 8vo. pp. 466. Philadelphia: P. Blakiston, Son & Co., 1882.

This book ought to have been entitled, lectures on some diseases of the nervous system. It is occupied for the most part with tabes dorsalis (posterior spinal sclerosis) and associated disorders. The first two lectures are on tendon reflex, and give a full account of the objective phenomena which are held to be due to a reflex action. The elements of the reflex are these: the reception of an impression by the peripheral nerves and its transmission to the cord; the development of a motor impulse and its reference outwardly to the muscles concerned in the action. In tabes dorsalis, this tendon reflex fails, because of a break in the circuit at the roots of the sensory nerves—in the posterior columns.

Lectures III. and IV. are occupied with infantile paralysis, and a good account of "the reactions of degeneration" is given—a topic well worthy of study by those who think electricity of little use to the physician.

The greater part being devoted to various phases of tabes dorsalis, this malady is fully discussed. He gives a particularly full account of the joint changes, and the gastro-intestinal derangements—"gastric crisis"—which belong to this strange disease.

Several forms of paraplegia, including the cervical and syphilitic, are discussed. Every topic is handled with care and even with minuteness, but the author makes the impression that he accomplished his task with ease because of an exact acquaintance with the subjects discussed. The work is easy reading, for, although many of the topics are difficult, everything is clearly stated, since the author himself has formed a definite conception. The mechanical execution of the work is excellent.

Cerebral Hyperæmia—Does it Exist? A Consideration of Some Views of Dr. W. A. Hammond. By C. F. Buckley, B.A., M.D., formerly Superintendent of Haydock Lodge Asylum, England. Pp. 129. New York: G. P. Putnam's Sons, 1882.

This brochure, as its title indicates, is a controversial work, intended solely to disparage Dr. Hammond's views. These views may, or may not, be correct, and having been published to the world are legitimate objects of a proper professional criticism. But is the criticism just? What is the motive? There is abundant evidence that the critic has transcended the proper boundaries of professional criticism, and has not correctly stated the views which he professed to be combating. He is therefore handicapped at the outset with a load which renders his best efforts impotent. What his motive may be does not appear. He seems to be an Englishman who has adopted this, as the readiest means for making himself known to the medical profession of this country. Quite apart from the merits and demerits of Dr. Hammond, or of his critic, there is the important clinical fact—*does cerebral hyperæmia exist?* Dr. Hammond says it does, and many of the ablest clinicians of our time say it does exist. Dr. Buckley denies it. After a resurvey of the question, it is our deliberate conviction that Dr. Buckley is wrong. Dr. Hammond may not be right in the views which he has promulgated, but it seems to us Dr. Buckley is clearly wrong. There are some unquestionable clinical facts and physiological studies which seem to prove that the amount of blood in the brain varies from time to time; that it is now present in excessive quantity—that it is now deficient in amount. That the intra-cranial blood pressure may not vary with the conditions affecting it, is certainly very extraordinary doctrine. There is a mechanism—the cerebro-spinal fluid moving through the foramen magnum—by which the blood-pressure is regulated. When the vessels are full the perivascular lymph spaces are encroached on,

the cerebro-spinal fluid is displaced. The converse is equally true: when the cerebro-spinal fluid is excessive, the blood is displaced. Such is the mechanism of the "wet brain," as described by pathologists—a wet brain, because it is an anæmic brain.

The best authorities recognize cerebral hyperæmia as a distinct morbid state. For example—Jaccoud, gives an excellent account of the several forms in which this state manifests itself. Trousseau devotes a lecture to it; Flint and Bartholow, also, recognize it as a morbid state; only Dr. Buckley questions its existence. We should be inclined rather to regard Dr. Buckley as mistaken, than that those who have made the subject a study have failed to recognize its true relations.

SOCIETY PROCEEDINGS.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, October 20, 1882.

(Specially reported for THE MEDICAL NEWS.)

R. A. KENNEDY, M.D., PRESIDENT, IN THE CHAIR.

AFTER routine business DR. OSLER exhibited the following specimens:

AMPHISTOMA CONICUM,

a fluke which is not uncommon in the paunch of ruminants. The specimen showed forty or fifty adherent to the mucous membrane by means of the powerful caudal sucking disks. They appear to be especially abundant in the cattle in Pictou Co., Nova Scotia, as nearly all the animals examined in connection with the so-called "Pictou cattle disease" presented numerous examples.

FATTY DIARRHŒA.

A small bottle full of oily material passed by a woman aged 33, a patient of Dr. Woolverton, of Hamilton. The woman had been ailing all summer with slight gastro-intestinal trouble, and latterly had been passing a quantity of fat with the stools, as much as a pint in twenty-four hours. It was yellowish in color, and of the consistency of melted butter, and was sometimes passed unmixed with the feces, usually with a gush of wind. She had a dislike to fat and only took what was contained in ordinary diet.

DR. WOOLVERTON thought that more was passed than could be contained in the food. In a subsequent letter he stated that after lasting ten days the fat has entirely disappeared and the woman felt much better.

OBLITERATED SUPERIOR VENA CAVA,

from a patient of Dr. Wilkins, who had been in hospital about three months with symptoms of venous obstruction in the chest—lividity, swelling of face and upper extremities, urgent dyspnœa and constant dropsy of the pleura, necessitating frequent tappings. The mode of onset and the origin of the trouble were obscure. At the post-mortem the vein was found to be completely obliterated and converted into a firm fibrous cord about the thickness of the thumb; firm organized thrombi extended into the internal jugulars. Section of the vein an inch from the auricle showed a dense grayish-white peripheral portion and a central grayish-red, more porous substance. No other lesion was found. Dr. Osler remarked that this was the third specimen of obliteration of the great venous trunks, which had been presented to the Society within the past three years; the others being obliteration of the inferior vena cava (*Journal of Anatomy and Physiology*, 1879), and obliteration of the portal vein (Ibid., 1882).

ABSCESS OF LUNG IN PNEUMONIA.

DR. MOLSON narrated the case. An intemperate woman, aged 35, was admitted to the General Hospital on the fourth day of an attack of severe pneumonia. Resolution did not take place, and on the tenth day she began to spit up quantities of very offensive, purulent matter. The temperature, which had kept up to about 104°, fell to 99°, and death followed on the eleventh day. There was extensive pneumonia of the right lung, and the specimen exhibited showed a large, ragged abscess cavity in the lateral region of the lower lobe. There was also recent pericarditis, and a thin sheeting of lymph lined the inner surface of the dura mater of the right side.

TAPPING THE GALL-BLADDER.

DR. OSLER showed eighteen ounces of thick bile, obtained by aspiration from the gall-bladder of a patient with the following history: A farmer, aged 58, of average health until the spring, when he began to have pains in the back and shoulders—did not feel "right in himself." In June he noticed that the urine was dark-colored, and that his face was becoming yellow. There has been a heavy dull pain over the liver, but never paroxysmal attacks or any vomiting. The jaundice has deepened, and he is now intensely icteric. The stools have been clay-colored, and the itchiness of the skin has been intolerable. He has lost flesh, but the appetite has been uniformly good. The liver was found greatly enlarged, smooth, painless, and projecting from beneath the right border was a rounded tumor, evidently a distended gall-bladder. This was aspirated and emptied. No gall-stones could be felt. The jaundice has not been relieved, and the nature of the obstruction has not yet been determined.

PHLEGMONOUS CYSTITIS.

DR. BELL exhibited a bladder from a man who had fallen into the hold of a vessel and broken the third and fourth dorsal vertebræ. He lived for ten days, and had symptoms of intense cystitis. The bladder was swollen and the mucous membrane transformed into a dirty, yellowish, sloughy layer. The inflammation had extended up the ureters to the kidneys; there were sloughs on the mucous membrane of the pelves, and scattered foci of suppuration through the substance.

SENILE ATROPHY OF BONES.

DR. F. J. SHEPHERD exhibited the femurs of a woman between 80 and 90 years of age, the subject of general fragilitas ossium or senile atrophy of the bones. The left femur had the characteristic deformity of osteo-arthritis, the neck being shortened and the head enlarged, and the acetabulum also enlarged. Just above the condyles in this bone was an old united fracture. In the right femur there was an ununited intra-capsular fracture. Dr. Shepherd remarked that all the bones in this case presented an unusual degree of fragility; the astragalus could be broken by pressure of the finger and thumb; the skull cap was only of parchment thickness.

CANCER OF THE ŒSOPHAGUS; PERFORATION OF THE LUNG.

DR. GEORGE ROSS showed the specimen and gave the following history: J. M., aged 54, was admitted to hospital October 10, with cough, pain in the epigastric region, and weakness. In May he had had pain beneath the sternum and in June there were symptoms of obstruction in the gullet; solids would be regurgitated, and he has lived on soft foods ever since. About three weeks ago he began to cough and noticed a very foul odor with the expectoration. When admitted he was anæmic and emaciated. At the base of right

lung there were bubbling râles; expectoration seropurulent and fetid. Liver enlarged, smooth, not particularly tender. A large sized bougie was readily passed into the stomach, and the patient swallowed dry bread without difficulty. In spite of the negative signs the case was considered to be one of cancer of the œsophagus, with secondary affection of the lung and possibly of the liver. At the autopsy the gullet presented an enormous cancerous mass occupying the lower half of the tube, terminating about an inch from the cardia and involving the entire circumference with the exception of a narrow groove-like portion on the posterior wall. The edges of the mass were swollen and infiltrated, the base deeply excavated, and at one margin it had perforated the right lung near its root and was in communication with a series of sloughing abscesses. There were numerous secondary masses in the liver.

DR. MILLS commented on the ready passage of the bougie in this case, and thought it might perhaps be explained by a turn of the instrument. He thought it would have been a good case for the auscultation of the œsophagus.

DR. ROSS thought ausculation would probably have failed, inasmuch as there was no obstruction but œsophagoscopy might have been serviceable. The bougie had doubtless passed along the groove at the back of the gullet, which had acted as a sort of director; indeed when the specimen was on the table and unopened, Dr. Osler had passed a bougie at his request, and each time it slipped down without any obstruction.

DR. MILLS explained the mechanism of Dr. Morell Mackenzie's œsophagoscopy apparatus; he did not agree with Dr. Ross as to the value of auscultation in such a case, for, although no obstruction was present, yet the walls of the tube were so diseased, that they could not act muscularly, and thus in swallowing the sounds would be sufficiently delayed to be appreciated by the stethoscope.

DR. OSLER thought that ausculation might have afforded valuable evidence in this case, and remarked that he had seen an instance in which it was of considerable diagnostic importance.

LACERATION OF THE KIDNEY.

DR. RODDICK reported the case and exhibited the specimen. A healthy woman, aged 60, had fallen down a long flight of stairs, and was picked up insensible. There was no wound, but on recovering consciousness she complained of great pain in the right loin; vomiting began, and in spite of all treatment, continued to the end. The bowels became tympanitic and refused to act. Pure blood was passed from the bladder during the first twenty-four hours; subsequently, the urine was mixed with blood, and on the fourth day it was nearly clear. Rupture of the kidney was diagnosed, and ileus was suspected on account of the obstruction of the bowels and their great distention, though no tumor could be felt. Rectal injections were employed without any benefit. At the autopsy a large clot of blood was found surrounding the right kidney, which presented a laceration on the border, extending into the pelvis of the organ. The kidneys were firm and slightly granular. The bowels were distended but not obstructed; it was thought that perhaps the large blood clot might have pressed upon the ascending colon and produced the obstruction.

HÆMATEMESIS IN CHRONIC ENLARGEMENT OF THE SPLEEN.

DR. OSLER read a short paper calling attention to some points in connection with this subject. He alluded in the first place to the frequency with which hemorrhages are associated with all forms of chronic splenic tumors, more especially those accompanying leucocythemia. A depraved blood condition would seem to be an important factor, as they are also common in profound anæmia without splenic enlargement. Epistaxis is the most frequent, and next hemorrhage from the bowels, but hæmoptysis, hæmatemesis, and hæmaturia are occasionally met with. Of 150 cases of leucocythemia, collected by Gowers, hemorrhages occurred in eighty, and in eight of these from the stomach. The point to which he wished to call attention, was the possible occurrence in some instances of severe, perhaps fatal hemorrhage, even before the constitutional symptoms were marked, or even before symptoms sufficiently pronounced had aroused the suspicion of patient or physician.

The following cases were given in illustration:

Case I. Early Hæmatemesis in Splenic Anæmia.—J. H., aged 36, admitted to hospital September 3, 1879, with anæmia. Has been healthy and temperate. Served with the army in India where he had intermittent fever. In January, 1879, when in apparent good health, he had an attack of vomiting of blood. Within a week the bleeding recurred twice, and each time he lost a considerable amount and was greatly reduced. In July he had a single large hemorrhage from the stomach, and afterwards severe diarrhœa. Up to this time he had had no symptoms pointing to enlargement of the spleen but he now began to feel a sense of weight and distention in the abdomen, which soon became evidently swollen. He entered hospital with anæmia, enlarged spleen, ascites, and œdema of the ankles. He had no hemorrhage while under observation and during the month in hospital the dropsy disappeared, and his blood condition materially improved. He was taken to the country by his relatives and died suddenly of a profuse hæmatemesis.

Case II. Early Vomiting of Blood in Splenic Anæmia.—A. B., aged 11, a well-nourished, stout little girl, came under observation on August 13. The mother gave a history of good health in the child up to two years ago, when, during a slight indisposition, with some abdominal pain, she had a severe attack of vomiting of blood, lasting over twelve hours. She recovered and seemed to regain her usual health, though pale and subject to headaches. In July, a brother died, and the excitement brought on another attack, which lasted thirty-six hours, and in which she lost a couple of quarts of blood. She recovered rapidly, and at the time of observation appeared well nourished, but pale and a little puffy under the eyelids. She complained of a fulness in the abdomen, shortness of breath on walking fast, and loss of appetite. Examination revealed enlarged spleen, extending about three inches below the costal border; abdominal veins not distended; no ascites; blood-corpuscles about fifty per hæmic unit.

Case III. Fatal Hæmatemesis in Leucocythemia.—A. B., aged thirteen, under the care of Dr. R. P. Howard, a plump, well-nourished boy, had been at school and playing as usual. On the 13th of April had a severe attack of vomiting of blood, and shortly after, a large bloody stool. For four days there was repeated vomiting, and he brought up in all about four pints of blood. Death followed on the fourth day. Enlargement of the spleen was detected and a leukæmic state of the blood. The boy had not been under medical care prior to the sudden onset of the bleeding, but four years before had passed blood with the stools. At the autopsy the spleen was found enlarged, and weighed 480 grammes. There were no erosions or ulcerations in the stomach.

Case IV. Sudden and fatal Hæmatemesis in unsuspected Leucocythemia.—A young American lady on a visit to the city was attacked with violent hemorrhage

from the stomach which proved fatal within twelve hours. She had been in apparently good health, her father was a physician and had not any idea that she was even ailing when she left home. She was under Dr. Howard's care. At the autopsy the spleen was found enlarged and firm and the blood was leukæmic. There were erosions or ulcerations in the mucous membrane of the stomach.

In reply to a question from Dr. Buller, DR. OSLER remarked that the bleeding was doubtless due in many instances to an impoverished blood-state with an enfeebled condition of the capillary walls; but in others it might be from mechanical causes. Three-fourths of the blood from the stomach is discharged into the splenic veins, and in states of engorgement of these a stasis or interference in the gastric circulation might be brought about, sufficiently intense to necessitate relief by rupture of a vessel or a diapedesis of blood into the stomach.

DR. ROSS referred to the occurrence of early hemorrhage from the stomach in early stages of cirrhosis of the liver.

MARION COUNTY, INDIANA, MEDICAL SOCIETY.

Stated Meeting, November 1, 1882.

(Specially Reported for THE MEDICAL NEWS.)

DR. GEORGE J. COOK, formerly Professor of Anatomy in the Kentucky School of Medicine, but now of Indianapolis, read an interesting paper on

THE ANAL SPHINCTERS AND THEIR AGENCY IN THE CAUSATION OF CONSTIPATION.

He said that Dr. O'Bierne, of Dublin, was the first to demonstrate by numerous explorations of the human rectum, in 1833, that it is not a receptacle in which feces accumulate during the intervals between the periods of defecation. Before that time it was never doubted that the feces passed freely along the colon and were not stopped until they reached the rectal pouch. Dr. O'Bierne examined persons in a few minutes after defecation, and others at the moment when they felt a moderate inclination to go to stool, and found that the rectum was perfectly empty and contracted at both these periods. The anatomy of the rectum shows an ill-construction for the purpose of a reservoir, and differs greatly from the large intestine. The rectum contains two strong layers of muscular fibres, longitudinal and circular. The three longitudinal layers of the colon pass down over the rectum, two anterior and one posterior. Besides the "sphincter of O'Bierne," at the upper part of the rectum and the external and internal sphincters below, we have the "sphincter ani," composed of a semi-circular band of fibres about three inches from the anus, and a posterior one about an inch higher than the anterior, and above the rectal pouch. The lower fibres of the posterior band run obliquely downward and form the upper border of the anterior band. These have been clearly demonstrated by Dr. Chadwick, of Boston. The upper part of the rectum when empty being firmly contracted, and these circular bands being stronger than other parts of the rectal walls, strong and prominent projections are formed in the inside of the gut, which can be easily felt in the healthy rectum as two semi-circular folds or constrictions. It is this constriction which is so often diagnosed as stricture, when by its firm contraction it offers obstruction to the free passage of the rectal bougie, which lodges against the superior bundle of constricting fibres, and if the bougie is pressed firmly onward, it will lodge against the sacrum below the promontory. Lynn reports a case where three hundred hours were spent by a reputable surgeon in dilating a stricture of the upper part of the rectum which the *post-mortem* proved did not exist, but that the end of the instrument had lodged in this fold against the sacrum.

The valvular arrangement claimed to have been discovered by Mr. Houston, of Dublin, in 1830, has been clearly shown not to exist by Busch, Chadwick, and others. Gray, Wilson, Heath, Ellis, Quain, and Harrison speak of the valves of the rectum, and give Houston as their authority, which gives the student a very wrong idea of the anatomy and physiological action of the rectum. Cruveilhier does not speak of any such valves. The rectum, especially the lower portion, receives a more abundant blood-supply than any other part of the large intestine. The nerve-supply to the rectum comes from two sources—from the hypogastric plexus of the sympathetic, and from the fourth anterior sacral nerve, being the only part of the intestinal canal which receives branches direct from the spinal nerves, which accounts for its greater sensibility and irritability than any other portion of the intestines. The external sphincter receives a greater nerve-supply than any other muscle in the body, being supplied by branches of the internal pudic, the fourth sacral, and the posterior sacral nerves, which also supply the integument over it, and the vessels and pelvic organs and external organs of generation. The spinal nerves supplying all the pelvic viscera, the structures of the perineum, and external organs of generation, are given off from the same point in the spinal cord, which accounts for the numerous reflex phenomena encountered about the pelvic organs—the spasmodic contraction of the sphincter ani attendant upon an inflamed prostate or bladder or irritation of the urethra, by inflammation or the introduction of a bougie, or chronic inflammation of the lower part of the uterus.

The proper receptacle for feces is the sigmoid flexure of the colon, which hangs down in the pelvis like a bag with the ends turned up, which position specially adapts it for a receptacle for the feces, where they are arrested until the period for their final discharge, which is accomplished by the sigmoid flexure rising out of the pelvic cavity into the iliac fossa as it becomes filled. This, together with the contraction of the colon, obliterates the acute turn in the gut between the colon and rectum, giving free passage to the contents, which are forced onward by the contraction above and relaxation below of the muscular fibres of the gut. When the mass reaches the perineum, the abdominal muscles come into play and assist in the final repulsion. Just as the last part of the *mass* is ready to be expelled, the levator ani contracts and raises the perineum, which seems to be necessary to the discharge of the last part of the feces. The longitudinal fibres assist in drawing the gut up over the mass.

The external sphincter is a purely voluntary muscle and contracts by both reflex action and direct volition. The rectum will not tolerate the presence of feces in it for any great length of time without education. When the expulsion of feces is voluntarily resisted for any length of time, a reversed or anti-peristaltic action takes place, and the feces are returned to the sigmoid flexure. By a repetition of this from time to time, the rectum is gradually educated to tolerate what is really irritating to it, and it is only educated rectums that are found full of fecal matter between the periods of defecation. This education begins by persons daily refusing to respond to the calls of nature. The rectal walls, from over-distention and exertion, lose their strength and irritability and are finally reduced to a state of atony. At the same time, the sphincter is becoming hypertrophied and increases in strength. The constant presence of a fecal mass in the rectum and its pressure on the terminal branches of the internal pudic nerves

at the upper border of the internal sphincter produces increased irritability of the muscle and a much stronger automatic contraction, which increases with the irritation of the muscle until the muscle will cease to respond perfectly to the will, when it is the desire to thoroughly relax it, and the once voluntary obstruction becomes an obstruction beyond the power of the will to entirely overcome. The internal sphincters soon get to acting the same way. Contraction takes place by reflex action caused by irritation from the fecal mass and will not relax until forced to by the advancing feces, which requires the aid of the abdominal muscles, and then an atonied rectum is never entirely emptied.

The same irritability of the sphincter is often produced by chronic diseases of the surrounding organs which are intimately connected with the external sphincter through the nervous system. Whatever may be the cause of this contraction of the sphincter, when it is continued long enough to produce atony of the rectal walls, chronic or obstinate constipation is the result. The sphincter muscle in these cases is always found firmly contracted and increased in size and irritability, making it difficult to introduce the finger into the rectum. Both rectum and sigmoid flexure are filled with feces, and the rectal walls have little strength to assist in expulsion. By the combined efforts of the rectum, colon, and abdominal muscles, the sphincter is dilated and the mass expelled, except the upper portion, which is left in the rectum until the next effort.

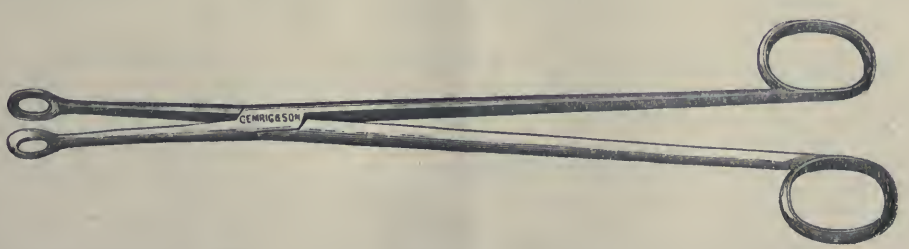
The watery portion left is absorbed and a dry mass left for the next discharge. The various rectal diseases produce irritability of the muscle with the above consequences. Obstruction by the external sphincter is the prime cause of constipation in the majority of cases. Atony of the rectal walls, which is always present in these cases, is usually the result of obstruction, and not the prime cause of the constipation.

NEW INVENTIONS.

A NEW OVUM FORCEPS.

BY A. E. SPALDING, M.D.,
OF LU VERNE, MINN.

EVERY physician has no doubt been occasionally perplexed in treating cases of miscarriage which occur from the fourth week to the third month. The tampon, which is undoubtedly used more than any other method of treatment, is very useful, but in several cases I have seen alarming hemorrhage occur with the vagina packed completely with pledgets of cotton. In such cases the ovum should be removed as soon as possible and when it can be reached with the finger, I think it better to remove it in that way than to use any form of instrument, but frequently we feel the ovum partially detached, rolling around within the uterus, and still we are unable to withdraw it.



I have found the instrument which I had made for me by J. H. Gemrig & Son, of Philadelphia, as shown by the accompanying cut, to answer the purpose of detaching and removing the ovum admirably. It is made the size of the common uterine dressing forceps, with the exception of the jaw, which is fenestrated, the edges are smooth and rounded so there is no danger of injuring the uterus, and its size is such that it is easy of introduction.

CORRESPONDENCE.

A LETTER FROM GENERAL WASHINGTON TO DR. JAMES CRAIK.

WE have received the following interesting and hitherto unpublished letter from General Washington to his intimate friend and physician, Dr. James Craik, from Dr. Weir Mitchell, to whom it was sent by Mr. George Bancroft, the historian, with the accompanying note:

"Here, my dear Doctor, you see the relation between physician and friend in the last century. The letter is enough to wring the heart for the sufferings of the best of mortals. Ever yours,

"GEO. BANCROFT."

"MOUNT VERNON, 4 August, 1788.

"DEAR SIR: With this letter you will receive the horse I promised you, and which I now beg your acceptance of. He is not in such good order as I could wish, but as good as my means would place him.

"I also send you thirty pounds cash for one year's allowance for the schooling of your son, G. W. I wish it was in my power to send the like sum for the other year which is now about or near due, and that could discharge your amount for attendance and ministrens to the sick of my family, but it really is not, for with much truth I can say, I never felt the want of money so sensibly since I was a boy of fifteen years old, as I have done for the last twelve months and probably shall do for twelve months to come.

"Sincerely and affectionately,

"I am, yours, etc.,

"GEO. WASHINGTON."

CAFFEINE IN HEADACHE.

To the Editor of THE MEDICAL NEWS.

SIR: In December, 1878, I was called to treat a lady suffering from a very severe headache. For some years she had had emphysema of the lungs and, resulting from this, frequent attacks of dyspnœa.

When I saw her she complained some of difficult breathing and was purple about the face, but the headache was agonizing. I tried several remedies without avail and remembering to have seen caffeine recommended in a general way for headache, I resolved to give it a trial. Accordingly at my next visit two grains of this drug was directed to be given every half hour until the patient was relieved. After the first dose she became easier and soon the headache ceased entirely.

Some time after this I was [illegible] a lady for an attack of pericarditis, who had long had asthma. Upon visiting her one day I found her complaining of violent headache, and I noticed a dark hue about the

face; calling to mind my former experience, she was at once put upon two grain doses of caffeine every half hour. It acted like a charm and promptly afforded relief.

Another lady had pneumonia: she was the patient of a brother practitioner and I was called to treat her in his absence; found her comfortable in every way with the exception of severe headache. I noticed a dusky tinge of the face and gave two grains of caffeine every half hour. After the second dose she became easy.

Since the above experience I prescribe caffeine in headache, if there is a dusky hue about the face, with as much confidence of relieving my patient as I feel in the use of quinia for ague. This drug has long been used for headache, but, so far as I am aware, no particular indication has heretofore been given for its use. My usual prescription is 16 grains of caffeine to one ounce of simple elixir, and dose, teaspoonful—frequently repeated if necessary.

I am, sir, yours,

Chas. B. Johnson.

Champaign, Ill., November 5, 1882.

NEWS ITEMS.

CINCINNATI.

(*From our Special Correspondent.*)

Clinical Teaching of Obstetrics.—Your readers in this city were much surprised by the excitement of the Philadelphia Hospital authorities concerning Dr. Warder's recent delivery of a woman during his lecture in the hospital amphitheatre. Dr. Warder did only what should be demanded of every teacher of the obstetric art in these times. We are gratified to note—just what we expected—the full spirit of this sentiment in the editorial which appeared in The Medical News a fortnight ago. In our city clinical teaching is regarded fully as imperative in this as in any other department of practice. When Prof. Reamy, several years ago, first brought an obstetrical case before his class in the amphitheatre of the Medical College of Ohio, there was some little unfavorable criticism even on the part of members of the profession, and severe comments in a few of the secular papers; but the benefit to the student and the public was so patent that for years he has delivered from three to six cases annually before his class without objection from any quarter; it is now regarded as an established and necessary feature of obstetric teaching here. No difficulty whatever is encountered in getting subjects for these clinics. Poor women voluntarily enter the obstetric wards especially established for this purpose, with the express understanding that they are to be taken before the class at the time of delivery. That any serious objection to a feature of such necessity should be raised in Philadelphia, which has so long been justly regarded as a centre of medical education, is a matter of astonishment to us in the West.

Remarkable Case of Melanosis.—One of the most remarkable cases of melanosis on record was recently reported by Dr. Wm. H. Falls, of this city. The skin of the entire body gradually changed its color until the man, once of light complexion, became as black as a negro. Impaired vision, resulting in complete blindness, was the initial symptom, being due to the deposition of the melanotic masses in the choroid. The urine, black as ink, was highly albuminous. The subcutaneous nodules, widely distributed over the entire body, varied from the size of a millet seed to that of a cherry. With the exception of occasional convulsions the patient's intellect remained clear to the end. Death resulted from paralysis following one of these convulsions. Melanotic masses were found in various parts of the brain and all the other viscera. These proved, on microscopic examination, to be melano-sarcomata. A detailed clinical history of this most interesting case, which lasted ten months, will, with illustrative lithographic engravings, and full *post-mortem* and microscopic accounts, be published in an early issue of the *Lancet and Clinic*, of this city.

BROOKLYN.

(*From our Special Correspondent.*)

Scarlet Fever at Flushing.—At Flushing, Long Island, scarlet fever has prevailed to an unusual extent, and the authorities have found it necessary to close one of the town schools.

BREWSTERS, PUTNAM COUNTY, NEW YORK.

(*From Our Special Correspondent.*)

At the Quarterly Meeting of the Putnam County (N. Y.) Medical Society, held October 24, the following resolution was adopted:

Resolved, That this Society does not approve the Code of Ethics adopted by the State Society, at Albany, in February, 1882.

CANADA.

(*From our Special Correspondent.*)

The Number of Doctors in Canada.—From the *Ontario Medical Register* just issued we learn that there are on the list of qualified practitioners 1919 names. 175 members practice outside the Province, and the addresses of 86 are unknown; so that there are about 1700 medical men. The census of 1881 gave 1,913,460 inhabitants, making about one medical man to every 1125 inhabitants.

Progress of the Yellow Fever at Pensacola.—The telegraphic reports received by the National Board of Health for the six days ending November 12th, are as follows:

Dates.	Cases.	Deaths.
November 7,	7	1
" 8,	3	3
" 9,	9	2
" 10,	3	0
" 11,	4	2
" 12,	11	1
Total,	37	9
Previously reported,	2243	185
Total,	2280	194

Dr. Hargis, President of the Pensacola Board of Health, expresses his views on public sanitation in a letter to Dr. White, of the Marine-Hospital Service, published, November 10, in the *Times-Democrat*, of New Orleans. "Furthermore," he says, "I take the occasion to deny, as has been asserted, that the National Board of Health has, to my knowledge, in a single instance attempted to trench upon the rights or prerogatives of any State or local board of health. From the time the National Board of Health was organized, and up to very recently, it was apprehended without just grounds, or even any reasonable grounds at all, that a new centralizing power should usurp the duties devolving upon State and local organizations, but even one year's service, during which the scope of its duties were carefully defined by able statesmen, showed conclusively that all such apprehensions were but the creations of a morbid fancy.

"The National Board of Health has its own special field of operation clearly and accurately limited, and within those limits it alone could act and did perform. It could not, even if it would, have assumed functions, which belong to and were performed by State and local authorities except by co-operating with them, but it was the fault of State and local boards that lack of harmony and concord of action ensued, as I predicted.

"The interests of commerce, and of the whole world, are bound up in the great question which I, for one, am glad to see intrusted for action and deliberation to the National Board of Health. That our colleagues in that Board will not betray their trust, nor act rashly, is universally acknowledged. I am in favor of an extension and not limitation of their powers, and under the guidance of Hon. Isham G. Harris, State authority can never be forgotten."

CHOLERA IN JAPAN.—The cholera which has been ravaging certain ports of Japan, and especially the ports of Yokohama and Osaka since April last, is now officially announced as having disappeared from the country. Advices from the United States Legation Tokio, Japan, state, that on the 26th of September the enforcement of the quarantine laws had been suspended at Kobe and other ports in respect of vessels arriving from Yokohama; and that on the 6th of October the enforcement of the said regulations had been suspended in respect of vessels arriving from Osaka, the cholera having disappeared from the said port. By virtue of these orders of suspension, quarantine laws are not now enforced at any port in Japan. Reports from Yokohama to the National Board of Health, dated October 16th, state that, since September 29th, no new cases of cholera have been reported as occurring in the city and vicinity, and that clean bills of health are now being issued to vessels leaving the port. Up to that date the total figures reported were 3,619 cures and 2,328 deaths, giving a mortality of 64.22 per cent.

THE ORGANIZATION OF A BOARD OF HEALTH AT PATERSON, N. J.—After a long delay a Board of Health has been established at Paterson, N. J., under the laws of the State. This step has been urged by the citizens ever since the late outbreak of smallpox, and the indications are that it has been taken none too soon, as under the old condition of things, there was a lack of authority for the officials to enforce the abatement of nuisances promptly, and to take proper measures for the compulsory movement of smallpox patients to quarantine.

The Board of Aldermen, at its meeting on last Monday night, passed the ordinance establishing a Board of Health, and the Mayor immediately appointed as members Dr. John Quin, Dr. E. J. Marsh, Henry L. Butler, and James Beggs. The appointments were confirmed. The other members are, ex-officio City Physician, C. F. W. Myers; Health Inspector, W. K. Newton; and George Boyd, the Register of Vital Statistics. The Medical members of the Board are all regular physicians. Dr. Quin is one of the Aldermen. Dr. Marsh is President of the Passaic County Medical Society. Mr. Butler was recently one of the Inspectors of the New Jersey State Prison, and is a member of the commission appointed by Governor Ludlow to examine into the question of water supply for the cities of New Jersey. Mr. Beggs is an engineer. It is thought that the members of the Board are of such character as will secure the enforcement of all necessary sanitary measures.

The situation is still considered grave. There have been six new cases of smallpox reported during the first three days of this week, and three of these were in localities where the disease had not previously existed. One of them was in a house on Arch Street, on which a sign was placed to warn people of the presence of the infection. Some unknown persons removed this sign several times after it had been replaced by the authorities, so City Physician Myers had a notice inserted in the local papers, warning the public. Two deaths were reported on Tuesday.

HARVARD UNIVERSITY.—The Corporation of Harvard University have passed a vote formally according to the Medical Faculty, that no matters relating to medical education should be acted on in the future until the Faculty should have had a full hearing upon the subject at issue.

The text of this vote has just been made public among the official records of the Corporation in the *University Bulletin* for October, and reads as follows:

Voted, that a standing committee of two members of this Board be appointed with whom the Medical Faculty may confer on any matters relating to medical education in the University.

The President appointed Messrs. Parkman and Agassiz as this committee.

Voted, that the President and Fellows deem it inexpedient to legislate in matters relating to medical education in the University without first offering to the Medical Faculty an opportunity of expressing its views.—*Boston Medical and Surgical Journal*, November 9, 1882.

DR. FLINT'S LECTURES BEFORE THE PHILADELPHIA COUNTY MEDICAL SOCIETY.—DR. AUSTIN FLINT, of New York, will deliver in the hall of the College of Physicians a course of three lectures on "The Physical Exploration of the Lungs by Auscultation and Percussion," before the Philadelphia County Medical Society, on the evenings of Saturday, November 25th, December 16th, and January 13th.

The subjects of the lectures are:

Lecture I. The True Mode of Study and its Requirements as Regards Auscultation and Percussion. The Signs obtained by Percussion.

Lecture II. Auscultation; and the Respiratory Murmur, with its Abnormal Modifications.

Lecture III. The Râles and the Vocal Signs.

The profession are invited to attend the lectures.

DR. HAMILTON'S BILL FOR PROFESSIONAL SERVICES TO PRESIDENT GARFIELD.—Dr. Frank H. Hamilton, of New York, in submitting to the Board of Audit his bill, amounting to $25,000, for services rendered to the late President James A. Garfield, wrote to Judge Lawrence, under date of October 18, as follows:

"I received you note of the 19th ult., calling my attention to the fact that the Board of Audit is awaiting the presentation of any claim against the estate of the late President. Availing myself of your suggestion that I may make to the board any further communication which I may deem proper, I will say that in presentation of a claim which I know cannot be paid out of the sum, $35,000, placed at your disposal by Congress, my intention is only to indicate to you what I would regard as the minimum compensation for similar service in case of a private person who was pecuniarily responsible, and who would not be embarrassed by payment of such sum. I will further say that while I do not make for myself any relative claim, I must protest against the presentation, on the part of one of the physicians in attendance, of a relative claim to the effect that he is entitled 'to receive double the fee of any other physician in attendance,' which claim was laid before the House committee, and may have been laid before your board."

The letter was accompanied by a specific statement

of the nature of the services rendered at the conclusion of which Dr. Hamilton said: "These circumstantial statements I make with great reluctance; but they seem to be rendered necessary by the fact that there are intimations to the contrary contained in the report of the House committee, and obtained apparently from sources which the committee considered reliable. Moreover, Congress has chosen to place the payment of the medical attendants upon a purely business basis, and your board has therefore properly instructed the claimants to 'describe fully the services rendered.' The sole item which I have to present to your board, as the basis of my claim, is my long attendance upon the late President as a consulting surgeon, with its accompanying responsibilities, which God forbid I shall ever again be called upon to bear."

COMMENCEMENT OF DARTMOUTH MEDICAL COLLEGE.—The graduating exercises of the Dartmouth Medical College were held on Tuesday evening, November 14th. After prayer by President Bartlett, an address was delivered by Dr. D. W. Jones, of Portsmouth. A thesis was read by J. F. Larocque, and the Valedictory was delivered by Hilary J. Moore. After an address by President Bartlett, and the bestowal of prizes, the Hippocratic oath was administereed by Prof. C. H. Frost, the degree of M.D. was conferred upon the graduates, of whom there were twenty-one. The first prize for the best examination in all branches was awarded to John Nottage, of Nashua, N. H., and the second, for the best examination in the practice of medicine, to E. N. Mullins, of North Londonderry, New Hampshire.

THE NATIONAL ACADEMY OF SCIENCES held its annual meeting this week in New York. Prof. O. C. Marsh, of Yale, Vice-President, presided, and Dr. G. F. Barker, of the University of Pennsylvania, acted as secretary. A number of scientific papers were read, but none of them had any special bearing on medicine.

LECTURES AT THE NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL.—The Trustees of the New York Orthopædic Dispensary and Hospital announce that Dr. Newton M. Shaffer will give a course of clinical lectures, on orthopædic surgery, at the Institution, on Thursday afternoons, at half-past four o'clock, from November 16, 1882, to February 15, 1883, inclusive. The course will be free to the medical profession and students.

Subjects: Ankle-joint Diseases, Knee-joint Diseases, Hip-joint Diseases, Pott's Disease, Club Foot, Knock-knee and Bow-legs, and Lateral Curvature.

THE BROOKLYN EYE AND EAR HOSPITAL on Thursday evening gave a reception, so as to afford an opportunity to the friends of the Institution, and the subscribers to its recent building fund, to inspect the new alterations and additions. Through the kindness and liberality of some of the friends of the Institution a simple collation was served in the dining-room.

SIR THOMAS WATSON, BART.—The whole profession will learn with deep concern that the health of this revered physician has during the last few days been a source of anxiety to his family and friends. He had for some weeks past been staying with his son at Reigate. On Sunday last, although now in his ninety-first year, he was in his usual good health and attended the morning service. On attempting to rise from his chair after lunch he suddenly inclined towards the left side, and would have fallen on the floor if he had not been supported by his son. He afterwards took a short walk in the garden, but there was an evident weakness of the left leg, and this continued to such a degree that he is now unable to walk without assistance. There is no appreciable loss of power in the arm, but the tongue when protruded deviates slightly to the left. There has been no drowsiness, and he is in complete possession of his mental faculties. His kind neighbor, Dr. Walters, of Reigate, is in daily attendance, and he has been visited by his old pupil and friend Dr. George Johnson, to whom he calmly remarked, "This is the beginning of the end." His medical attendants are agreed that there is probably some arterial obstruction by thrombosis in the neighborhood of the right corpus straitum. —*Lancet*, October 28, 1882.

PERSONAL.—A telegram to the *N. Y. Tribune* says that the health of Ex-Surgeon General Barnes continues to be so feeble as to excite the gravest apprehensions of his friends. Dr. Woodward, another of President Garfield's physicians, has been steadily sinking for several months past, and no hopes of his recovery are now entertained.

PROF. NOTHNAGEL was enthusiastically received by the students and professors on the occasion of his first official appearance, on October 16, as a member of the Vienna medical faculty. His introductory lecture was an eloquent tribute to the memory of his predecessor, the late Prof. Duchek.

MR. J. N. LANGLEY, of Trinity College, Cambridge, has been appointed teacher of physiology.

MR. A. SEDGWICK, the late Prof. Balfour's assistant, has been appointed to the lectureship held by Mr. Balfour before his election to the professorship.

THE BALFOUR MEMORIAL.—A large and influential meeting of gentlemen connected with the two Universities has been held at Cambridge, in connection with the proposed memorial to the late Prof. Balfour. The Vice-Chancellor presided. It was agreed, on the motion of Prof. Huxley, that the memorial should take the form of a fund, to be called the Balfour Fund, for the promotion of research in biology, especially animal morphology. At the close of the meeting it was stated that the Balfour family would give £3,000, and Dr. Michael Foster £1,000. Dr. John Willis Clark has been appointed treasurer to the fund.—*British Medical Journal*, October 28, 1882.

THE NEXT INTERNATIONAL CONGRESS OF HYGIENE will meet at the Hague, in January, 1884.

THE HEALTH OF THE EMPEROR OF GERMANY.—It is reported that the Emperor of Germany is suffering from some nephritic disease.

BANQUET TO THE MEDICAL OFFICERS OF THE EGYPTIAN EXPEDITION.—It is proposed in London, at an early date, to give a banquet of welcome to the medical officers of the British army and navy who served in the Egyptian expedition. Sir William Jenner, Bart, K.C.B., President of the Royal College of Physicians, will take the Chair.

THE PROCEEDINGS OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—The Council of this Society has decided on making some innovations in the conduct of the proceedings of the Society. Hereafter printed abstracts of the papers to be read are to be supplied before each meeting, in sufficient time to allow members two or three days for the consideration of the subject; and, on the evening of the meeting, a sufficient number are to be laid on the table for the use of the members present. Hitherto, only a written abstract of each paper has been placed in the Society's room for inspection before the meeting. Authors are

also to be allowed to read their own papers if they prefer to do so, instead of having them read by the secretaries.

Prof. Virchow.—At the last meeting of the Berlin Medical Society, Prof. Virchow was installed anew in the president's chair. Virchow's bust, presented by his assistants, has just been erected in the hall of the Berlin Pathological Institute.

Excision of the Pylorus.—On Oct. 17th, at St. Thomas's Hospital, Mr. Sydney Jones removed the pylorus for malignant disease. The patient, aged fifty-seven, was under the care of Dr. Bristowe. A large growth completely surrounding the pylorus, together with some affected glands, was removed. The operation was a prolonged one, and was carried out with antiseptic precautions. The patient was much emaciated before the operation, and unfortunately did not rally from the shock, dying about six hours afterwards. We hope shortly afterwards to publish the particulars of the operation and morbid appearances.—*Lancet*, October 28, 1882.

Nephro-lithotomy.—On the 21st of October, at the Queen's Hospital, Birmingham, Mr. Bennett May performed this operation on a man 34 years of age. The stone, weighing 473 grains, was extracted entire through an incision in the kidney, which was healthy. The case, which promises to be an interesting contribution to the operative treatment of renal calculus, will be published when complete. At the present time the patient's condition is excellent in every respect.—*British Medical Journal*, October 28, 1882.

A New Vegetable Styptic.—A recent number of the *Neue Freie Presse* states that during the French expedition to Mexico a plant was discovered, called by the natives by a name which may be rendered as "Fowlwort" (Tradescantia erecta, Jacq.), which has the property, when chewed or crushed, of stopping any hemorrhage. A specimen planted in 1867 by the discoverer, in his garden at Versailles, has not only flourished, but flowered and fruited, without having its peculiar properties as yet appreciably diminished. Although no exotic, or remarkable for particular beauty of bloom, it, nevertheless, deserves a wider extension on account of its valuable properties, especially as its acclimatization may be regarded as having been fully established. Its action exceeds that of all styptics as yet known, as, for example, perchloride of iron, and it can, moreover, be very cheaply procured.—*Lancet*, October 28, 1882.

Preservation of Dead Bodies for Identification.—Every corpse that is taken to the Paris Morgue is now quickly converted into a block, almost as hard as stone. This result is obtained by Carré's chemical refrigerator, which is capable of reducing the temperature of the gruesome "conservatory," where each body is laid out on something closely resembling a camp bedstead in stone, to 15° below zero Centigrade. At the back of this *salle* is a row of stove-like compartments in which the corpses are boxed up and frozen hard before being exposed to public view. As an illustration of the intense cold thus artificially secured, a Paris journalist, in describing a recent visit to the Morgue, says that in opening one of the compartments the attendant took the precaution to wear a glove lest "his hand should be burnt by contact with the cold iron." The corpse, which was taken out of its receptacle, had been there nine hours. During the experiments which preceded the adoption of the new system, corpses in this frozen state were actually thrown about, but although they made *un fracas terrible*, they were "not in the least damaged."—*Med. Times and Gazette*, October 21, 1882.

Disinfection of Hospitals.—M. Miguel has recently undertaken a series of experiments with reference to the destruction of the numerous micro-organisms held in suspension in hospital wards. It having been ascertained that many bacterial germs resist, for a period of two hours, dry air warmed up to 145° or 150° Centigrade (293° to 302° Fahr.), his investigations were made on chemical agents specially. After having satisfied himself that atmospheres loaded to saturation with the vapors of chloroform, carbolic acid, ammonia, sulphurous acid, sulphide of carbon, hydrocyanic acid, and nitrous ether, are powerless to destroy all the germs contained in floating dust, even after twenty days' action, he directed his attention to a class of corrosive substances, which destroyed these so-called germs as certainly as a long-maintained temperature of 200° Cent. (392° Fahr.). Thus, an atmosphere saturated with iodine-vapor at the ordinary temperature destroyed every schizophytic germ at the end of ten days. Bromine, diffused in the air, produced the same results at the end of two days; hydrochloric acid gas, of an equal volume, acted at the end of the same time with similar efficacy; the vapors of nitrous acid and moist chlorine gas had the same effect; but the damage produced by these extremely corrosive agents on wood, linen, and metals rendered the destruction of bacteria by these processes a very costly proceeding. It must be remembered that bacteria, and not mould, is in question; for the spores of the commonest forms of mould resist the powers of those agents that can destroy bacteria.—*British Medical Journal*, October 28, 1882.

Public Health in Connecticut.—From the report for September of the Connecticut State Board of Health we learn that the month of September can hardly be classed among the healthy months of the year when the mortality tables are consulted, together with the usual average of at least five cases of sickness for each death. These taken together indicate the category to which the month must be referred. The large proportion of deaths from zymotic diseases, those rightly classed as preventable included, is a marked feature. The protracted heated term gives also a large addition in the cities from cholera infantum, using the term comprehensively; convulsive disorders, and infantile debility are also prominent, showing the depressing effects of unsanitary surroundings upon infant life. Hartford stands prominent as an illustration of the prominence of these diseases, as they cause nearly fifty per cent. of the mortality of the month. Ten deaths are reported from typhoid fever, a large number even after those brought into the city to the hospital are deducted.

The principal diseases of the month have been diarrhœal and dysenteric diseases, typhoid fever and malarial diseases. There has been some diphtheria, whooping-cough—scarlet fever—rather more than the usual number of diseases of the nervous system, and a larger number of cases of erysipelas; cerebro-spinal meningitis is reported in one or two instances, two fatal cases from Bridgeport, one from Avon. A large number of towns report more or less typhoid fever, comprising nearly every part of the State, indicating quite a general prevalence. In Portland it could almost have been called epidemic there were so many cases.

This return of typhoid fever to prominence, and its steady increase in frequency for the last three years, is apparently a part of an extensive and comprehensive movement, as the epidemic of malaria was ushered

in by a decrease, and in places almost if not quite a total disappearance of typhoid. This return of typhoid fever to its former importance and relative frequency is an intimation of the decrease and disappearance of malaria. The tendency towards typhoid fever commenced several years ago, and has steadily grown stronger each year as shown by the increased prevalence, tendency to unusual frequency and severity, and the increase each year of deaths from this cause. As the decrease in the frequency of typhoid preceded the malarial wave, so its increase precedes the entire disappearance of malaria, but gives us some ground for hope that such a disappearance will take place. This disappearance of epidemics of malarial fever, on a large scale, has often been followed by an unusual prevalence of typhoid fever or an extensive epidemic. The epidemics of malarial fever of 1807 and 1824, which are stated to have extended over all Europe, were followed by typhoid fever. Of course it is as yet but an inference that the present malarial influence which has extended continuously over the greater part of this State into Massachusetts and Rhode Island is subsiding and leaving its first points of invasion. But there is much to encourage such an idea. It is quite a prevalent impression that there has commenced a steady decrease in the general frequency of malaria in the west and southwestern parts of the State. However that may be, the return of typhoid fever, the tendency towards a continued type shown by malarial fevers, the large percentage of typho-malarial fever, forming 86 per cent. of the mortality from malarial diseases last year, or 222 out of 357 deaths, are obvious facts.

Whether or not malaria will become endemic in any part of the State is a question of interest that time only can determine. The idea has been advanced that the southwestern part of this state is a border-land where the epidemic influence from the southwestern regions (especially Westchester County where malaria is endemic), finds a resting-place whence, if reinforced repeatedly, or strong enough originally, it invades other parts of the State. The same tendency before noted to greater severity in regions where it has existed for some time continues, while few cases of acute intermittent occur. Thus congestive chills are reported in several instances, one fatal case in Hartford, one in Meriden. A singular fact often illustrated is the tendency to acute intermittent shown by new comers, even if they come from a malarious region, and have had ague previously. What at first looked like a fresh recurrence of acute intermittent was found on investigation to be mainly confined to the new families that had recently moved from New Jersey.

The conclusion to be drawn from the sanitary history of the month is the need of closer attention to the sources of disease. If every city would employ sanitary inspectors under the direction and control of the boards of health, as does New Haven, the results would be as apparent as they are there. If a nuisance must exist until it becomes unbearable, which is generally the case, before any one complains, much harm is caused that is avoided under the other plan. Persons, then, that if left to themselves, pollute their own premises and adjacent unoccupied spaces, with decaying organic matter, or have other unsanitary tendencies, would be checked and kept in order, if they knew that some one would look after them at any time, when least expected, and take them to task for their shortcomings.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending Nov. 4, 1882, indicate that tonsillitis has considerably increased, that scarlet fever and typho-malarial fever have increased, and that intermittent fever and diarrhœa have decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending Nov. 4, and since, at 25 places, scarlet fever at 19 places, measles at 2 places, and smallpox at 2 places, as follows: at Niles, and at Grand Rapids (one new case) Nov. 4.

OBITUARY RECORD.—Died at Lattingtown, L. I., October 30, in the 86th year of his age, JAMES C. TOWNSEND, M.D.

Dr. Townsend studied medicine with his uncle, the late Dr. Thomas F. Cock, of New York, and graduated in 1820, from the College of Physicians and Surgeons. He settled in his native place, Lattingtown, and for more than half a century practised there and in the vicinity. About a year or two since, the growing infirmities of age induced him to abandon his professional career, which had been active and extensive during a period of years allotted to but few of his compeers. He was one of the founders of the Queen's County Medical Society, and an active member thereof until the close of his life. Possessed of a robust physique, an active and well-cultured mind, and a public-spirited disposition, he was long known as a wise counsellor not only in matters professional, but in the furtherance of interests affecting the common weal. His estate is said to be valued at $125,000, the fruit, in no small measure, of his long and successful practice.

—— Died at Burlington, Vt., on Tuesday, November 14, aged 65 years, SAMUEL WHITE THAYER, M.D., Emeritus Professor of Anatomy in the Medical Department of the University of Vermont.

Dr. Thayer was born in Braintree, Vermont, on the 21st of May, 1817, of New England parents, whose ancestors emigrated to this country from Wales in the early part of the seventeenth century. He received his medical education at the Vermont Medical College, Woodstock, and graduated in 1838. He settled in Woodstock, but in 1840 he removed to Northfield, in the same State, and in 1853 he established himself at Burlington. In 1854 he was made Professor of the Theory and Practice of Medicine in the Medical Department of the University of Vermont, and was subsequently transferred to the Chair of Anatomy. During the war of the rebellion he was made Surgeon-General of Vermont. Dr. Thayer's professional laurels were won chiefly in the domain of surgery, and he is said to have twice successfully amputated at the shoulder, and removed the entire scapula and half the clavicle. His widow and one son survive him.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 6 TO NOVEMBER 13, 1882.

AINSWORTH, F. C., *Assistant Surgeon.*—Granted leave of absence for one month, with permission to apply for extension of one month.—*S. O. 120, Department of Texas, November* 1, 1882.

AINSWORTH, F. C., *Assistant Surgeon.*—The leave of absence granted November 1, 1882, is extended one month.—*S. O. 121, Military Division of the Missouri, November* 9, 1882.

BREWSTER, WM. B., *Assistant Surgeon.*—On being relieved by acting Assistant Surgeon Potter, will proceed to Fort Bridger, Wyoming, reporting to the commanding officer thereof for duty.—*S. O. 116, Department of the Platte, November* 4, 1882.

MCELDERRY, HENRY., *Assistant Surgeon.*—Upon arrival of Assistant Surgeon Brewster at Fort Bridger, Wyoming, to be relieved and ordered to Fort Robinson, Neb., to report to the commanding officer thereof for duty.—*S. O. 116, Department of the Platte, November* 4, 1882.

BRECHEMIN, LOUIS, *First Lieutenant and Assistant Surgeon.*—Leave of absence for five months granted.—*S. O. 259, par 2, A. G. O. November* 6, 1882.

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ORIGINAL LECTURES.

TREMOR.

A Clinical Lecture delivered at the Pacific Medical College, San Francisco.

BY J. O. HIRSCHFELDER, M.D.,
PROFESSOR OF CLINICAL MEDICINE.

(Specially reported for THE MEDICAL NEWS.)

WE have before us, Gentlemen, a patient who presents a peculiar tremor for our consideration. Besides a purulent gingivitis, nothing abnormal is to be found. There is no other disturbance of motility and no alteration of sensibility. In a word we have to do with gingivitis and tremor. If we examine more closely into the character of this tremor we find it involving all four extremities. We see the parts quiet under ordinary circumstances, but a tremulous movement as soon as an effort is made. When the patient stands with his eyes closed he does not totter, but his legs tremble in the same manner as did his hands when he extended them. Tendon reflex is normal. Our patient informs us that for a year and a half he has labored over the furnace of a quicksilver mine, and that three months ago the tremor, and with it salivation, set in. Since this time both have increased in severity. We have before us a case of mercurial intoxication.

If we inquire into the diseased conditions attended with tremor, we will find the latter present in the following pathological states: paralysis agitans, disseminated sclerosis, alcoholism, syphilis, chronic intoxications, and neurasthenia.

Tremor may be produced either by alternate contraction and relaxation of antagonistic muscles, or it may be brought about by irregular innervation of the muscles involved. Under normal circumstances the contraction of a muscle is not a simple single contraction. It is not due to a single impulse from the nerve centre. Waves of nerve force pass during the entire duration of the contraction from that centre to the muscle. It takes a certain measurable time for a muscle to pass from a state of contraction to that of relaxation. If the nervous impulses pass from the centre to the muscle so frequently that the relaxation following the contraction caused by the previous impulse has had no time to pass off before the succeeding impulse arrives, an apparently continuous contraction of the muscle is the result. If, however, the waves of nerve impulse do not pass to the muscle in such rapidity, if a relaxation of the muscle has already been produced before the succeeding wave arrives, no continuous contraction occurs but a tremor.

In the animal body we may for the sake of simplicity consider that the nerve force travels from the centre in the brain to the ganglia of the cord, and thence through the motor nerves to the muscle. For the purpose of illustration we may consider the nervous power to be a fluid, the nervous fibres tubes conveying this fluid, and the ganglionic cell cups in a state of unstable equilibrium so arranged that when this equilibrium is overcome the fluid passes through the tube forming the motor fibres to the muscle. I have said the ganglionic cells are in a state of unstable equilibrium, for you know that a certain amount of nerve force is necessary to produce their activity. If less than this amount be communicated to them, nothing results. Now, we imagine this cup in a state of equilibrium which may be more or less stable; that is to say, the ganglionic cell is more or less irritable. Under ordinary circumstances, the nervous fluid passes from the brain through the nervous tubes and flows into the ganglionic cups. As soon as sufficient has accumulated to overcome the equilibrium, a discharge of the fluid into the motor nerve-tube occurs, and a flow of nervous fluid to the muscle, producing a contraction thereof. While this passage from the ganglionic cell to the muscle is going on, a flow from the brain to the ganglionic cell occurs, which again overcomes its equilibrium, and so before the muscle has had time to pass from its state of contraction to relaxation another wave has come. And so a continuous contraction results.

Now, under pathological conditions, the state of equilibration of the ganglionic cups may be altered. The cup may be balanced nearer its centre of gravity, and so require a larger quantity of nerve fluid to produce a discharge (the cell is less irritable), or it may be balanced further from its centre of gravity (the cell be more irritable). If we imagine the irritability of our cell to be diminished, or, to translate into the terms of our illustration, the equilibration of our ganglionic cups to be made more stable, then it will require the accumulation of a greater amount of nervous fluid to cause its discharge, and if all the other conditions remain the same it must take longer for the cup to be filled to its point of discharge, and therefore the number of discharges in a given time be diminished. Hence, the waves would pass so unfrequently to the muscle that it had time to pass to a condition of relaxation before each succeeding wave arrives, and hence a tremor would result.

Or the nerve-tube through which the nervous fluid passes may be narrowed, so that in a given time a less quantity of fluid can pass to the ganglionic cup, so that likewise the number of discharges in a given time would become reduced. In medical parlance a diminished conductivity of the nervous fibre might cause tremor. Or the muscle itself might be less irritable, so that it would require a greater quantity of nerve force to produce a contraction, and again tremor would result.

It is probable that one other factor is of great importance in the production of tremor, namely, the quantity of nervous fluid which passes from the brain in a given time. It is probable that, in the condition of neurasthenia, that is, nerve exhaustion, less nervous force is generated than under normal conditions. This is however, as yet, a dark, unexplored field. To sum up that which has preceded. we may state tremor may be caused:

1. By exhaustion of nervous centres in the brain.
2. By diminished conductivity of nerve fibres.
3. By diminished irritability of motor ganglionic cells.
4. By diminished muscular irritability. It may be likewise produced by the alternate contraction of antagonistic muscles which occurs in chill. We would add then:
5. Contraction and relaxation of antagonistic muscles.

We are, as yet, too little familiar with the *molecular* changes produced in the nervous system by various pathological lesions to state definitively to which of these five causes the tremor in the individual case be

due, but through this classification a direction may be given to further investigations.

Where we have a tremor independent of voluntary effort, as in paralysis agitans, we must assume that there is a continuous flow of nerve force to the muscle, but not sufficiently rapid to cause continuous contraction, as is the case in tetanus; but, instead, a tremor. We have as yet been baffled in our search for the cause of paralysis agitans, and so the attempt at explanation of the origin of its symptoms is futile.

ORIGINAL ARTICLES.

SPONGE GRAFTING.

By W. L. ESTES, M.D.,
MEDICAL SUPERINTENDENT OF ST LUKE'S HOSPITAL, SOUTH BETHLEHEM, PA.

Since the publication of Hamilton's paper with the above title in the November number of the *Edinburgh Medical Journal* for 1881—proving not only the innocuousness of properly prepared sponge on living tissue, in common with other properly treated animal substances, and also demonstrating its usefulness in pathological conditions—surgeons on both continents have experimented with varying success according to his method. Having had my attention turned to this line of surgical therapeutics even before seeing his article on the subject, I was stimulated by his success as well as that of one or two followers, whose results have since appeared, to a systematic trial of the method I had already determined upon. I do not accept Dr. Hamilton's theory of granulation, viz., that "the bloodvessels have a constant tendency to be forced outwards into loops, but in the normal condition are restrained by compression from the fasciæ and skin;" when, however, by a solution of continuity of these tissues the vessels are relieved of their pressure, "the action of the heart forces them outward into loops, and they are covered by cells produced by multiplication of connective tissue corpuscles from over-nutrition." While retaining the common idea that the capillary loops are new formations from the underlying bloodvessel, his theory of support afforded by the sponge to these capillaries, and the largely additional facility furnished by the protection of the sponge meshes for the generation of fibro-cellular tissue from the mucoid covering of the blood-tracts, accorded entirely with my former reasoning. Much encouraged, therefore, I set about experimenting with *small bits of sponge as grafts on ulcers*.

I selected fine surgical sponges, had them thoroughly beaten, in order to remove the sand and loose calcareous particles, carefully washed in cold water, and then soaked in dilute hydrochloric acid (officinal acidum muriaticum dilutum, about proper strength) for forty-eight hours; after this, carefully washed in several relays of cold water, in order to remove the acid entirely; and lastly, put into a well-stoppered jar filled with five per cent. solution of carbolic acid. They must remain in the five per cent. solution for at least a week, and are then ready for use. In grafting, the ulcer is carefully disinfected with a two per cent. solution of carbolic acid, taking care not to rupture any capillary, for I have found that hemorrhage into the bits of sponge seems to prevent their absorption. Hands, instruments, and everything likely to come near the ulcer, must also be carefully disinfected. As many pieces of sponge as are desired are now snipped off and allowed to fall into a basin of two per cent. solution of carbolic acid. With a pair of forceps these are successively removed and carefully laid among the granulations; when they are all applied the ulcer is covered with a piece of "protective," and a full Lister dressing applied. The size of the pieces used is about one-tenth of an inch—about the size of an ordinary skin graft. The dressings are generally removed on the third day, reapplied, and the subsequent dressings made, as the case requires. Strict antiseptic precautions should be kept up for a week at least. On the third day I have always found (with one exception which will be mentioned further on) that all the grafts are firmly adherent. If examined carefully at this time with the unaided eye, it will be noticed that each graft is surrounded by a faint white zone, which by a magnifying glass is resolved into radiating bands of lymph inclosing minute bloodvessels which run into the sponge. If now a piece be removed, it will be found pretty firmly fixed, and its removal will be followed by quite an appreciable hemorrhage. Examined microscopically at this time, the interstices of the graft are seen to be pierced in every direction by a network of capillaries, and a number of large nucleated cells permeate its whole substance. After seven days the bits of sponge are seen as small white points in the granulations, entirely covered by lymph and firmly embedded in the granulations. At this time it is difficult to remove them. If a piece be removed, the circumference will be seen to be very ragged, the piece itself seeming to be diminished in size. Examined microscopically the capillaries and large nucleated cells fill the sponge everywhere and the proper sponge substance is beginning to disintegrate. From this time they are steadily absorbed. In fourteen days they are usually not to be seen, or only indistinctly under the granulations. While it is the rule for all the grafts to be absorbed, it has several times occurred that after hemorrhage into them, either from placing them too roughly upon the granulating surface or by attempts at the removal of one of them, after skin had formed over them, a circumscribed ulcer would form at the site, which would close immediately after the removal of the bit of unabsorbed sponge. The explanation of this doubtless is that the extravasated blood, coagulating within the meshes of the sponge, prevents vascular and cellular infiltration of the piece, the *sine qua non* of its absorption and desired encouragement to cicatrization. Of course impurities of any kind would have a much worse effect, hence great care should be observed in preparing and placing the grafts.

So far I have grafted seven cases. Not selected for any particularly favorable feature in the ulcers, but all average, indolent ulcers, resulting from severe injuries and arrived at that state of chronicity where nature seems to wait in patient expectation of the surgeon, by art, rejuvenating tissues

she has worn old and callous in her attempts at repair.

As the largest ulcer grafted and as affording the most typical illustration of the action of sponge grafting in small bits, I will give the fifth case in my order of grafting somewhat in detail, and take it *first* in my present report. I shall then give the others briefly with only the main points noted.

CASE I.—Ulcer of the antero-internal aspect of the thigh resulting from a very severe lacerato-contused wound of the thigh and abdomen. This ulcer was grafted first July 30th, at which time it measured 10x6½ inches. Ten grafts were applied ¾ inch from the margin of the ulcer. They were applied only on the sides, not at the ends or in the centre. August 2d, dressing removed for the first time. All the grafts firmly adherent. The lymph-tracts and bloodvessels distinctly seen entering the sponge-bits on every side. The raised hard edges of the ulcer disappeared, and on both sides, the whole extent, a flat faint blue edge sending numerous little capes into the sea of granulation. The ulcer measures 10x4½ inches. August 10th, ulcer measures 10x3 inches, most of the grafts already covered by skin, the others entirely embedded in the granulations. August 12th, ulcer measures 9½x3 inches, regrafted with 12 grafts placed as before. August 15th, first dressing after last grafting, ulcer measures 9½x2¾ inches. August 18th, measures 9½x2½ inches. August 22d, measures 9½x2¼ inches. Since July 30th (3 weeks) the ulcer had contracted ½ inch length-wise and 4¼ inches laterally. It will be observed that at both graftings, the grafts were placed on the sides of the ulcer and the contraction or cicatrization of the ulcer had been principally lateral. At this time, August 22d, again grafted, using 16 pieces, placing some at either end, and in the centre as well as on the sides. August 25th, first dressing, ulcer measured 9x2¼ inches. September 1st, only 10 pieces of sponge can be located; two distinct islands of skin beginning. A fourth grafting was done September 8th. October 8th, patient discharged with an ulcer ½x4 inches, to be treated in out-door department. At present time, October 25th, ulcer about entirely cicatrized.

CASE II.—Very indolent ulcer after lacerated wound of ulnar side of the wrist and hand, involving in the hand all the tissues of the hypothenar eminence down to the periosteum of the metacarpal bone of the little finger. Ulcer at time of grafting, May 21st, measured 3½x2½ inches: all "took." Patient discharged, July 11th, cured.

CASE III.—Ulcer of the dorsum of the foot, after severe lacerato-contused wound of the toes and foot, also very chronic. June 1, measured 3x3 inches, 8 grafts, all took. Discharged July 29th, cured.

CASE IV.—Large ulcer of the postero-internal aspect of the thigh, subsequent upon severe contused wound. June 1st, measured 4x2 inches; 12 grafts, 4 of these were pulled off by very careless dressing on the third day afterward, but the copious hemorrhage and the depressions left in the surface of the granulations showed that they were firmly ured 3x1 inches. Regrafted, 10 grafts used. Discharged June 29th, with an ulcer measuring ¾x½ inch perhaps. Attended the out-door department and in two weeks entirely cured.

CASE V.—A very irregular ulcer, reaching from malleolus to malleolus posteriorly and upwards to about middle of the lower third of the leg on either side; also downwards to plantar margin of the heel, resulting from severe burn. This grafted twice. First, May 29th, 22 grafts; and second, June 10th, 18 grafts. All took. June 30th, ulcer entirely healed. At this time however, a retrograde action began, and in a week the cicatrix had broken down into a characteristically specific ulcer. The points of skin formed over the sponge grafts were the last to yield, and their sites the first to begin healthy reaction under specific treatment.

CASE VI.—Very similar to fifth. Very irregular ulcer of sole, heel, and posterior surface of ankle, extending to middle of the lower third of the leg. Grafted twice, first, August 11th, 20 grafts; second, August 31st, 28 grafts applied; all took at both graftings. At present, October 25th, notwithstanding various injuries to granulations in attempts at moving the foot and walking, patient is doing well, and will be discharged in a few days.

CASE VII.—A very indolent ulcer over the posterior surface of the elbow-joint, after severe laceration of the elbow-joint and posterior surface of the arm. Measured, August 31th, 3½x3 inches. Applied 10 grafts, all took. October 18, ulcer healed.

The *modus operandi* of sponge grafting appears threefold. First. The grafts afford support and lodgement for the new bloodvessels forming the granulations. Second. They encourage by direct protection, and a stimulation difficult to understand, the genesis of the large nucleated cells and so-called "lymph bands" into distinct centres of cicatrization. Third. Their chief action is to stimulate to a remarkable degree the activity of the marginal cicatrization.

The first proposition seems obvious and requires no enlargement.

The second requires for a proper appreciation a cursory glance at the by-laws—so to speak—of cicatrization. Granulations are loops of new formed bloodvessels with coverings of mucoid or embryonic tissues and a few intercellular fibrillæ. From the bloodvessels there is a constant emigration of white blood corpuscles, also a rapid endogenous multiplication of the mucoid cells; to this activity and the marginal contractions must every ulcer owe its final integrity. Unprotected, under ordinary circumstances, a large number of these cells die and are swept away as pus from the surface of the ulcer; if, however, a porous animal substance, rendered perfectly unirritating, be interposed, it will furnish lodgement, in the aggregate, for a large number of the cells and protect them—while being itself absorbed—during their higher development. This office I believe the sponge grafts to perform. Small bits are preferable on the flat surface of an ulcer to one large piece cut to cover the whole area of the sore, because the large piece is much longer of ab-

ably in place until firmly adherent, and because in many instances where an ulcer is so irritable that it will not submit to a *large* piece of—*in itself*—unirritating animal substance without rebellion, very small pieces of the same disseminated over its surface are retained and readily absorbed. It is rare, moreover, to find an indolent ulcer of large extent with "healthy granulations" over its entire surface; by using small bits of sponge it is possible to take advantage of what favorable area there may be, and thus encourage cicatrization in a part while waiting for the rest to get into proper condition. The stimulation by central cicatrization is difficult of explanation. I hold the orthodox principle of "like generating like" in nature. I cannot contend, therefore, that a bit of the skeleton of a protozoan would proliferate into epithelial cells, nor would I dare insinuate that the mucoid tissue and neophytes grounded upon, and proceeding from the fibroid group of connective tissue would develop into squamous epithelium. Still I must assert from direct and repeated observation, that I have seen cicatrization beginning around and over a sponge graft isolated entirely from everything but granulations—these granulations having originated from a basis substance entirely destitute of epithelium. So far I have not been able to explain this phenomenon clearly, and must leave it for further investigation.

The third and last is a very marked feature in sponge grafting. One of the very first effects observed in the ulcer is the renewed activity of its edges. I have repeatedly noted a contraction of ½ inch on the third day after grafting. This is probably due to the stimulation of the largely increased number of capillaries formed in the ulcer by the assistance of the sponge supports, and the supernutrition thus insured, epithelial proliferations keeping pace with mucoid. Reverdin noted as one of the chief benefits of skin grafting, the stimulating action it exercised on the margin of the ulcer, one which every surgeon since his time has awaited anxiously as the sure harbinger of rapid cicatrization. This effect is observed usually *after* the skin islands have formed in the skin graft method, whereas in sponge grafting it appears almost immediately, and once started it never ceases until the ulcer is healed.

The ulcers noted in this paper were all results of deep wounds and not only such as are ordinarily very slow and tedious in healing, but are commonly followed by serious contractions. Yet in no case has there, so far, resulted any notable distortion. The cicatrices were firm, but aside from slight depressions after the deep wounds, no deformity has occurred, though all the ulcers were on extremities. The two, of the hand and foot respectively (Cases II. and III.) left not only no contraction, but also no interference with motion.

A comparison of the two methods results in the following conclusions, to wit:

1st. Sponge grafts are available when skin cannot be obtained. They cause no pain in preparing them, nor any annoying little wounds as additional tax on the healing powers of the patient. They do not subject the recipient patient to the danger of inoculation of specific diseases—as skin may do when taken from a cachectic donor.

2d. Sponge grafts take more surely; invariably, when proper care is exercised.

3d. Sponge grafts stimulate marginal activity much earlier and to a much greater degree than skin.

4th. In sponge grafting skin or cicatricial islets are much slower of formation, and not as sure as after skin grafting.

5th. Healing seems equally, if not more rapid with sponge grafts than with skin.

6th. Resulting cicatrices are equally good and contractions equally prevented.

POISONING BY TEN GRAINS SULPHATE OF MORPHIA TREATED BY SULPHATE OF ATROPIA; RECOVERY.

BY E. STUVER, B.Sc., M.D.
OF RAWLINS, WYOMING TERRITORY.

MRS. B., æt. 21 years, married two years, has had one child which was delivered piecemeal, and is now about six or seven months advanced in her second pregnancy. She is of a melancholic temperament, and twice previously took opium with a suicidal intent—once during her former pregnancy. Has not been enjoying very good health recently, and, during the last few days, has been under the care of another physician of the town. On the afternoon of October 24, 1882, this physician injudiciously gave her twenty grains of morphia sulphate in bulk, and some whiskey. During the afternoon she took five or six ounces of whiskey, and about six o'clock in the evening ten grains of morphia. It was soon noticed that she had a peculiar expression of countenance; face somewhat flushed, and eyes bright and sparkling. She soon began to sob hysterically, and her husband, thinking she was merely despondent, tried to soothe her; but she told him it was too late, and that she would not be alive in the morning, at the same time pointing out a bottle of morphia which was subsequently found to contain nine grains of that drug. I was summoned at seven o'clock P.M., and found the patient unconscious and rapidly lapsing into a comatose condition; breathing very irregular, at times superficial, short, quick, and gasping, followed by an interval of from ten to fifteen seconds, during which the respiration was entirely suspended; face flushed, of a livid, cyanotic hue, swollen, and anxious; upper lip largely swollen; eyes injected, and *pupils somewhat contracted, but not nearly so much as they should be to correspond with the gravity of the other symptoms;* she was profoundly unconscious and could not be made to notice or answer questions by slapping, pinching, or in any way. Pulse, about 100.

I immediately gave a hypodermic injection of one-thirty-fifth grain of sulphate of atropia in aqueous solution. For about fifteen or twenty minutes the symptoms continued to increase in intensity, the breathing being very labored and shallow, and the pulse about 150 per minute. When the physiological antagonism of the atropia began to manifest itself, however, a remarkable change took place; the pulse diminished in frequency and became fuller;

the respiration became quite regular, fuller and natural in rhythm; the pupils dilated widely, and the countenance assumed a more healthful appearance. This favorable condition lasted from twenty to thirty minutes, when the pupils began to contract quite rapidly; irregular, shallow, and labored respiration supervened, and the pulse became very frequent. At eight o'clock, or one hour after the first, I gave a second injection of one-fortieth grain of atropia, which, in about fifteen minutes, was followed by the same favorable changes as the first; the breathing became full, deep, and regular; the pulse diminished in frequency, and the condition improved in every respect. At nine o'clock respiration was 16 per minute, pulse about 100, and temperature (Kew) 100° in axilla. About ten o'clock the patient began to notice loud noises, and a little before eleven called for water, of which she drank about an ounce without difficulty. As no unfavorable symptoms supervened, I left the case about eleven o'clock P.M.

October 25, 9 A M.—The patient slept very naturally and comfortably all night, no unfavorable symptoms supervening, and this morning talks quite rationally; has a severe, dull, heavy, frontal and vertical headache, and some nausea, but otherwise feels quite well; no motor or sensory disturbances, except slight numbness in the knees, discoverable; pupils, slightly enlarged.

This case furnishes another illustration of the fact, insisted upon by Prof. Bartholow, in his work on the "Antagonism between Medicines and between Remedies and Diseases," viz., that the condition of the pupil *does not always* furnish a safe criterion by which the gravity of the case can be estimated.

If the above report is instrumental in inciting a more careful study of the antagonism existing between remedies and a careful perusal of such excellent works as that of Prof. Bartholow, above alluded to, it will not have been written in vain.

A CASE OF TRAUMATIC TETANUS; RECOVERY.

BY GEORGE W. LE CATO, M.D.,
OF ACCOMACK COUNTY, VA.

THE following case is reported as another among the comparatively few recoveries from well-developed *traumatic tetanus*:

Tom S., negro, 18 years old, well grown and healthy; wounded at a negro serenade on Sunday night, April 30th. The injury was the result of an accidental discharge of a musket heavily loaded with powder and wad. The muzzle being in close proximity to the patient's right leg, the charge entered the belly of the gastrocnemius muscle, making an irregular, ragged opening three inches in diameter and an inch in depth. The wound was undermined, blackened, and burnt with powder, and contained imbedded fragments of clothing and paper-wad. Separated from it by a bridge of integument was a smaller wound, about an inch in diameter. These were both carefully cleansed, pared with scissors, and dressed with carbolized applications. The case progressed well. The bridge of integument separating the two wounds broke down after a few days, making quite a broad and ugly-looking sore, but there was less suppuration and sloughing than might have been expected.

May 14 (two weeks after the accident).—The patient began to complain of fulness and pain in the chest. Had experienced some stiffness of the jaws for two or three days, which he had attributed to a carious tooth, and of which he had made no complaint. He described the suffering in the chest as a "swelled-up feeling," which rendered him unable to stoop forward, and which he located immediately behind the sternum. Was unable to open the jaws sufficiently to admit the finger. No appreciable stiffness of other muscles, and no spasm. The wound had now filled up to a level with the surrounding surface, and was in all respects healthy. Ordered a purgative, to be followed with 10 grains of Dover's powder.

15th.—Did not sleep well during the night; had been disturbed by twitchings and startings. The distress behind the sternum had increased and there was evident tonic spasm of the deeper muscles, especially of the right leg. No feverishness, and the appetite fairly good. Ordered 15 grains chloral and 30 grains of bromide of potassium, to be taken every two hours until he slept. The usual dressing of carbolized oil, and laudanum and water to be continued.

16th.—Had rested some after two doses of the anodyne had been given, but was repeatedly awakened by severe "cramps," attended with opisthotonos; the seizures coming on every three or four hours, with milder attacks at shorter intervals. Was irritable and despondent. Ordered one drachm doses of bromide every three hours during the day, and 20 grains of chloral every three hours during the night, until he slept. Concentrated nourishment to be systematically administered, and all the solid food given that could be gotten through the mouth. A poultice was applied to the wound.

17th.—Did not sleep until two doses of the chloral had been given. Was still sluggish from effects of the medicine at 8 A.M. Disease fully developed. All the muscles rigid from tonic contraction, and the abdominal walls as hard as a board. Suffered severely from attacks of clonic spasm, accompanied with violent opisthotonos, and attended with loud cries. These were especially induced by all efforts of movement, attempts to speak, or even being spoken to. Tincture of physostigma in 15 drop doses was now added to the bromide, and the medicine continued every three hours during the day; a half drachm of chloral to be given at bed time, and repeated if necessary. A special attendant was detailed to superintend the feeding.

18th, 19th, 20th.—Had taken each day a half ounce of bromide, and a drachm of tincture of physostigma, with 30 to 60 grains of chloral during the night; and been well fed with milk, soups, oysters, and boiled fish. Condition of the muscles apparently slightly improved, but the paroxysms as frequent and severe as ever. Had suffered attacks of spasm about every half hour during the night, but generally dozed in the interval. Constantly bathed

in profuse perspiration; pulse 65 to 75, but extremely rapid and irregular during pain. Had become an object of neighborhood curiosity, and was evidently worried by the presence of visitors; quarrelled constantly with the attendants, and had grown peevish and unreasonable. Considerable difficulty in voiding the urine, and was annoyed by a collection of gas in the bowel that evidently added to the suffering. Continued the treatment, and ordered an ounce of castor oil in calamus infusion, to be repeated as occasion demanded.

21st.—Experienced considerable difficulty in moving the bowels, but sundry doses of castor oil and epsom salts, followed with large enemas of warm water, brought away some hardened feces, with obvious good effects. Pulse feeble and slow, with tendency towards delirium. Considerable embarrassment of respiration during spasm.

22d, 23d, 24th.—Usual treatment steadily continued. Wound suppurating freely. Paroxysms less violent, but patient feverish, with inclination to talk at random. Had become suspicious of his mother and grandmother. The bowels were again moved, with some difficulty, and with some apparently good results. Slept at intervals during the day and night, and took large quantities of nourishment daily.

25th, 26th, 27th.—Tonic spasm of muscles evidently subsiding, and paroxysms less frequent and severe. Had been placed in an easy chair for an hour every day, at his own request, and apparently suffered less in that position. Notable improvement in the facial expression, the *risus sardonicus* having been well marked. Treatment continued as before.

From this time the case began to progress towards recovery. The bromide and physostigma were continued in gradually decreasing doses, and finally withdrawn. The chloral was continued at night for several days afterwards, in order to procure rest from annoying cramps that prevented sleep. A notable rise in the frequency of the pulse occurred, when the daily doses had been withdrawn, ranging considerably over 100 after convalescence was fully established. Professional visits were discontinued after June 1, a little over two weeks from the beginning of the attack.

In the present state of our knowledge of the pathology and essential nature of tetanus, it may perhaps be safely classed among the so-called self-limited diseases. Though death may occur at any stage from spasm, it doubtless results in the vast majority of cases from exhaustion. The above treatment was designed to answer, as far as possible, the plain indications: first, to control, as far as the resources of medicine would serve, the violence and danger of the paroxysms; second, to support the strength by securing rest and nourishment. Experience proves that where patients can be kept alive for ten days, there may be a reasonable prospect of recovery. It is a doubtful question how far the muscles of deglutition and respiration may be made available without the employment of adequate measures to control the element of spasm. What valuable aid may be derived from the three agents so persistently employed in the above case, the result seems to indicate; and it is fair to presume that a persevering system of *feeding*, not of liquids alone, but suitable solids, may do much towards assisting the patient over the period of greatest danger.

More than half of a pound of bromide of potassium was administered during the attack, and nearly two ounces of tincture of calabar bean!

MEDICAL PROGRESS.

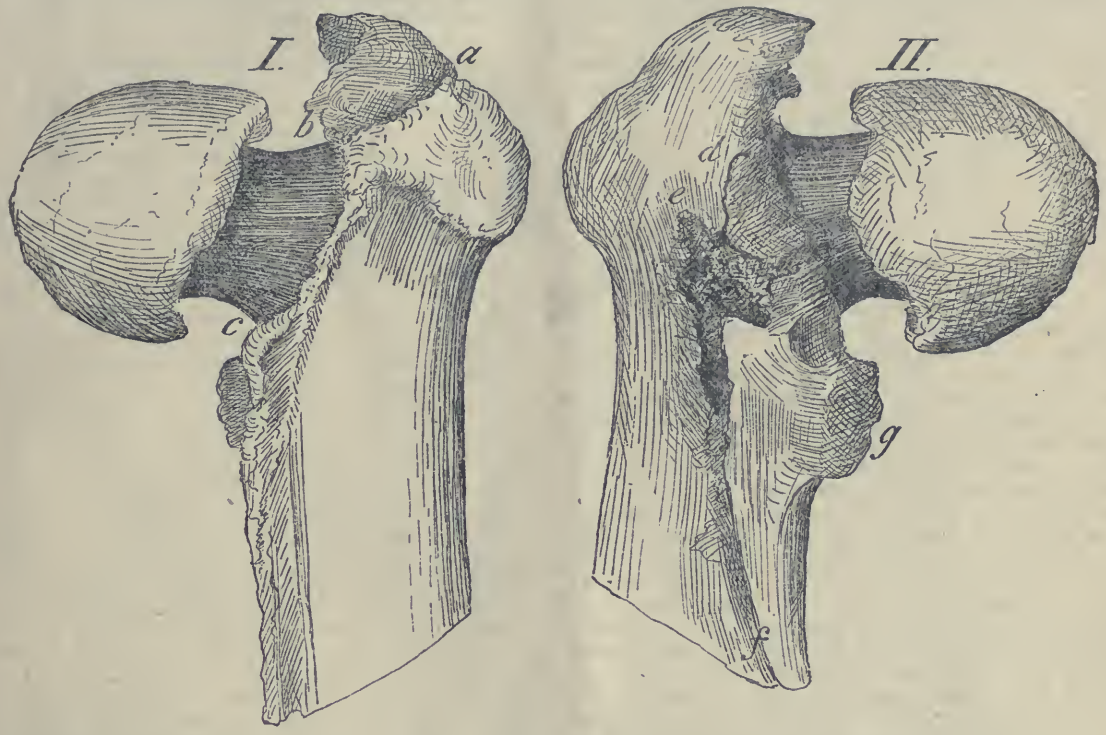
OCCULT CASES OF PYÆMIA.—DR. P. K. PEL (*Zeit. f. klin. Med.*, iv., 1882) gives an analysis of certain cases of obscure febrile disease, in which a source of pyæmic infection was only discovered on post-mortem examination. In commenting on the importance in diagnosis of remembering such a possibility, he remarks as follows: A previously healthy person is attacked with a quotidian pseudo-intermittent fever, associated with swollen spleen and disturbed digestion. No local cause of the (fever such as empyema, tuberculosis, etc.) can be made out by physical examination. The usual febrifuge medicines, given in sufficient quantity and in good time, have no abiding effect. In such a case the diagnosis will lie between—(1) occult or cryptogenic pyæmia; this is most likely when the feverish attacks are very severe; it is not excluded by the appearance of labial herpes: (2) ulcerative edocarditis; the physical signs will serve to confirm this: (3) irregular typhoid: (4) syphilis, even though for the time no other signs can be discovered.—*Practitioner*, Nov. 1882.

IMPACTED FRACTURE OF THE NECK OF THE FEMUR, WITH INVERSION OF THE FOOT.—DR. W. J. CONKLIN, of Dayton, Ohio, reports in the *Columbus Medical Journal* for November, 1882, the case of a large and fleshy but feeble woman, who, on the night of July 5, 1882, fell and injured her left hip. As nearly as could be ascertained, she fell backward and to the left, striking upon the great trochanter. She was unable to move without assistance, but under the impression that it was only a bruise, domestic remedies were applied for a few days after the accident.

When seen, she was in bed with the limb slightly flexed, rotated inwards, so that the patella faced the opposite thigh, and shortened to the extent of one inch. The position of the limb at once suggested a dislocation upon the dorsum ilii. A careful examination, however, showed that the head of the bone clearly rotated in the acetabulum, and that the trochanter moved with it. The left trochanter was distinctly nearer the anterior superior spinous process of the ilium than the right. Pain was caused by pressure over the trochanteric region, which seemed somewhat thicker than on the opposite side. Gentle traction had no effect in overcoming the shortening; moderate flexion gave but little pain. Crepitus was not obtained. An impacted fracture of the neck of the femur was diagnosed, and all manipulative efforts discontinued. She lingered for four weeks after the accident and finally died from exhaustion. The inversion of the foot remained constant during the progress of the case.

The *post-mortem* examination showed that, as is usual in impacted fractures of the neck of the femur, the line of separation at the base corresponds with the anterior and posterior intertrochanteric ridges. In the specimen the whole neck is strongly driven into the cancellated tissue of the trochanteric fragment, and forms somewhat less than a right angle with the shaft. The principal fracture on the anterior surface follows the intertrochanteric line to its termination in the linea aspera (*b*)

about one inch and a half below the lesser trochanter; the neck is driven in so as to leave a fissure, about one-quarter of an inch in width, between it and the anterior wall. A small fissure (*b a*) begins immediately above the tubercle and extends almost horizontally across the greater trochanter for a distance of one inch and a quarter. The principal fracture on the posterior surface corresponds with the posterior intertrochanteric line. The lesser trochanter is broken off and twisted inwards and forwards, evidently by the force of the impaction; without any injurious consequences. The blood of the general circulation was taken from the tip of the finger. In each method every precaution was taken to avoid the accidental introduction of organisms. The examination, in this way, of fifteen patients gave the following result. At the height of the disease the blood of the general circulation contains micro-organisms both isolated and grouped. These consist, almost exclusively, of spherical bodies, which have a delicate contour, appear to be homogeneous, and are analogous to



the fracture communicates with that on the anterior surface. The tilting forward of this fragment leaves an irregular gap (*e*) of more than an inch, at its greatest width, through which the impacted neck can be seen approaching the posterior surface and almost reaching the outer wall of the shaft. A narrow fissure runs (*d*) from the upper margin of this gap along the great trochanter. The head of the femur is somewhat roughened, and an irregular collar of bone projects from the greater portion of the corona, evidently the result of chronic arthritis.

When the specimen was placed in the hands of the artist, the fact that the impaction had been partially released was unfortunately overlooked, and hence the drawings represent the neck considerably longer, and the head less depressed than in the original.

Examples of this accident are of very infrequent occurrence. Profs. R. W. Smith, Bigelow, and Hamilton, have each met with but one case.

THE ORGANISMS OF TYPHOID.—MARAGLIANO, of Genoa, has published, in the *Centralblatt für die Med. Wissenschaften*, an important note on the uniform occurrence of organisms in the blood of patients suffering from typhoid. He has found them in the blood of the spleen as well as in that of the general circulation. The blood was obtained by means of a hypodermic syringe, the needle of which was passed through the abdominal wall into the substance of the spleen. Dr. Sciamano of Rome first showed that blood may be thus obtained from the substance of the spleen during life micrococci. Some of them are mobile. Similar organisms, again, were seen in the blood of the spleen, and in it, too, were others, rod shaped, also with delicate outlines, perfectly corresponding to those described by Eberth and Klebs. During convalescence these micro-organisms lessen in number in both the splenic and systemic blood. When quinine was given to the patient in large doses the organisms either disappeared from the blood, or were present in it only in small number. The blood from both the finger and the spleen was treated by the method of fractional culture, and a large number of rods were then obtained, similar to those seen in the fresh blood except that some of them were of greater length. The presence of such organisms in the blood of the spleen after death had been previously established by Sokoloff and Fischel, but Maragliano is the first who has demonstrated their presence in the splenic blood during life. He avoids the expression of any opinion as to their relation to the disease.—*Lancet*, October 28, 1882.

PYROGALLIC ACID IN THE TREATMENT OF VENEREAL ULCERS.—ANDRIEU (*Thèse de Paris*, 1881) believes the leading advantages possessed by pyrogallic acid in the treatment of chancres consists in the promptitude and certainty of its action, which involves no danger of injury to surrounding parts, and its complete destruction of the virus.

Slightly caustic, and at the same time astringent in its properties, it is superior to nitrate of silver on account of the profound alteration it effects in the substance of

the sore; and to other similar agents, in that it may be applied at any period, whatever may be the age or malignity of the lesion.

The specificity (if we may use the term), as well as the greater celerity of its action on the poison of the disease, render it preferable to iodoform, whose penetrating and disagreeable odor both annoys the patient and betrays the nature of his malady.

Iodoform, it is true, exerts an anæsthetic influence which is sometimes very desirable, but this is not, in every instance, to be relied on, while the pain produced by pyrogallic acid is not severe enough to constitute an obstacle to its use, and, moreover, can always be allayed by such means as the application of chloral compresses, or the subcutaneous injection of morphia.

The only precaution to be observed in the employment of the acid, is not to combine it with soap or any other alkaline substance, as by these we know that it is readily decomposed.—*Journal of Cutaneous and Venereal Diseases*, November, 1882.

PARALYSIS PRODUCED BY INJECTIONS OF ETHER.—DR. ARNOZAN (*Journ. de Méd. de Bordeaux*, 1882) has employed in several cases of variola the method of subcutaneous injections of ether, recommended by Dr. Ducastel (see MEDICAL NEWS p. 290). He found, however that when the injections were allowed to penetrate the muscles that a local paralysis was produced, with suppression of their faradic excitability, but with an increased excitability on galvanic stimulation, and that the response to the faradic current only appeared when the voluntary motor power was regained. The paralysis disappeared spontaneously in time. Cure was much accelerated by the use of the constant current.—*Archives Générales de Médecine*, November, 1882.

CASE OF MEMBRANOUS CYSTITIS.—At the meeting of the Cambridge Medical Society, on October 6th, MR. T. LUCAS produced a specimen from the bladder of a woman, aged 28, whom he had attended for this condition. On the ninth day after her confinement she had pain over the hypogastric region, and retention of urine. In a few days she had feverish symptoms, a temperature of 103°, and pain in the left groin, followed by swelling of the left thigh and leg. The use of the catheter was required for twelve days, after which time the leg was well. The urine contained mucus and albumen. Ten days later there was complete and sudden retention of urine, and on passing the catheter an obstruction was met with, which proved to be a piece of membrane, blocking the urethra. This was withdrawn in pieces and then a quantity of ropy urine escaped through the catheter. A few days later, a piece of membrane, about six inches by four, was removed, and subsequently another piece, ten by twelve inches, came away. Ten days later, the woman had entirely recovered. The membrane consisted of a fibrillated network, in the meshes of which were enclosed leucocytes, granular matter, and crystals of phosphate of lime, and seemed to be a cast of the mucous surface of the bladder. Mr. Lucas considered the case interesting from its rarity, and as indicating the manner in which calculous deposits might occur in the bladder. Such cases were more frequent in females, and might be of a croupous nature, and caused by a septicæmic condition, similar to that giving rise to phlegmasia dolens, and affecting the vitality of the epithelium, and thus causing cystitis. He mentioned a case of Liston's in which the mucous membrane of the bladder was removed entire, a sac six inches by four, as a result of injury.

DR. HUMPHRY said he had, in the case of a young woman, dilated the urethra with his finger, and removed a large amount of mucous membrane, covered with phosphatic deposit, and observed that the mucous membrane of the bladder had hardly any secretion, and very little glandular substance. In cases where the whole mucous membrane sloughed off, it seemed due to a process called by Leuchars necrosis of the membrane—*British Medical Journal*, November 4, 1882.

CASE OF SO CALLED IMPERFORATE HYMEN.—At the meeting of the Obstetrical Society of London, DR. MATTHEWS DUNCAN read a paper with this title. He was induced to relate the case by three circumstances. 1. There was a remarkable absence of any kind of suffering during nearly the whole time of the development of the disease. The patient had never menstruated nor suffered from any uneasiness in connection with that function until eight months before admission, when she was told by a medical man that she had a lump in the lower belly. Since then she had suffered from irregular achings. The author thought the probable explanation of this was that the uterine body was not distended, for facts showed that dilatation of the uterine body was more difficult and painful than dilatation of the vagina and uterine cervix. 2. The case illustrated the treatment without any injections, which had been the subject of remarks at a recent meeting of the Society. An incision was made by Paquelin's cautery knife. About twenty-five ounces of the usual treacly fluid escaped, about twenty ounces on the following day, and the last of it on the fifth day, in all about fifty ounces. At no time had it any fetor. No hypogastric pressure or interference with the flow was permitted. A piece of carbolized lint was put to the vulva. The patient made an uninterrupted recovery. He thought the risk of peritonitis was increased by the washing out sometimes practised. He thought the cautery knife was preferable to any other mode of making the incision, because its wound was not an absorbing surface. 3. The condition of the pudendum, rendering the term "imperforate hymen" erroneous and misleading. The vagina was closed by a membrane upon which the hymen could be seen entire and healthy, and after the operation the hymen could be seen to have its normal position and relations. He had made the same observation in other cases, and he had seen the hymen present when vagina and uterus were both absent. On these grounds he regarded the view of M. Budin (that the hymen was nothing but the anterior extremity of the vagina) as incorrect.—*Lancet*, Oct. 28, 1882.

ON A NEW METHOD OF AMPUTATION OF THE UPPER EXTREMITY.—At a meeting of the Académie des Sciences, M. Joselin presented a note by M. DESPRÈS, on a new method of amputation of the upper extremity. For a case of osteosarcoma of the scapula, M. Despiès performed with success "amputation of the shoulder," that is, entire removal of the arm, scapula, and part of the clavicle. His method of operating was as follows: 1. He tied the subclavian artery, external to the scalenus muscle, by a double ligature to avoid secondary hemorrhage. 2. He made an incision *en raquette*, commencing at the centre of the space separating the eminence of the spine of the vertebræ, at the internal border of the scapula, and at a level with its spine, and following its dorsum, turning round the salient portion of the shoulder and passing under the axilla as far as its centre, and afterwards rejoining the original incision at its starting point. 3. He dissected a superior flap without interfering with the incision for the ligature of the vessel. 4 He divided the clavicle as near as possible to its middle. 5. He tied the axillary vein. 6. The scapula was detached after division of the pectoralis minor and dorsi latissimus, and then dividing the muscles inserted into the scapula. The suprascapular artery

should be tied if necessary, and the wound brought together by sutures. The dangers of this operation consist in, 1, the loss of blood; 2, the possibility of the entrance of air into the axillary vein; but they are not necessarily mortal. One complication occurred—the extremity of the clavicle perforated the skin; but M. Desprès thinks that it is better to have such a condition than to remove the entire collar-bone, and that this portion of the clavicle preserved covers in the superior aspect of the thoracic. The operation, he thinks, is of value in cancer of the scapula, and less formidable than removal of the scapula, leaving the arm, and may be well applied to cases of white swelling of the shoulder involving the scapula. It would seem very practicable in patients below twenty-eight years of age.—*British Medical Journal*, November 4, 1882.

TUBERCULAR SYNOVITIS OF TENDONS.—M. TERRIER made a communication on this subject at the meeting of the Société de Chirurgie held Oct. 25, 1882. This affection is extremely rare. The first description was by M. Lancereaux some time after M. Débove had found tubercles in a case of synovitis of the carpus; more recently it has been described by M. Bouilly and Prof. Trélat. M. Terrier reports three new cases, in two of which a histological examination was made. Giant cells were found in a mass of granulations formed of embryonal cells, and, at certain points, obliteration of the vessels, but no caseous nodes. Three different types of this disease may occur: the classic tubercular synovitis as described by Lancereaux, Bouilly, and Trélat; a form in which the fungosities are preceded by nodes which rapidly ulcerate; and a third type analogous to the acute tuberculosis of articulations, where the symptoms are those of acute synovitis with effusion. Its diagnosis is difficult. It can be primarily and essentially local, or an episode of a general infection: the prognosis and treatment will vary as either of these conditions exist.—*Le Progrès Méd.*, Oct. 28, 1882.

A NEW TREATMENT OF THE LACHRYMAL PASSAGES BY A DILATOR.—GALEZOWSKI (*Recueil d'Ophthal.*, August, 1882) has for six months practised a mode of rapid and forcible dilatation of the nasal duct without scarification of its walls, which he believes will replace all other modes of enlarging the duct. The instrument employed is a dilator, the blades of which, when closed, form a smooth, round probe, equal in thickness to Bowman's No. 4. When the blades are together the handles are separate. The closed blades are passed into the duct like an ordinary probe. The handles are then pressed together, and the blades in separating produce an effect equal to that of Couper's largest probe; at the same moment the instrument is withdrawn.

The pain, though sharp, is of short duration, and hardly a drop of blood is lost. Ordinarily there is no inflammatory reaction. If the dilatation is practised on inflamed and suppurating tissues, poultices are applied for a few hours afterwards.

A fine probe, No. 3 or 4, is passed on the third or fourth day, to determine whether the duct is free from obstruction, and this is followed by a No. 10 or 12, which is usually introduced without difficulty and with little pain.

By this method the author has obtained complete cures after other measures, perseveringly employed, have failed. Illustrative cases are cited.—*Ophthalmic Review*, November, 1882.

THE PATHOLOGY AND TREATMENT OF DIABETES.—At a clinical lecture at the Hôpital de la Pitié, PROF. LASÈGUE made some very interesting remarks on the pathology and treatment of diabetes. He divides diabetic patients into two classes: fat and lean, according as they may be found in either of these conditions. He also divides them into small and great diabetics, according to the quantity of the sugar which their urine may contain. The patient that excretes twenty grammes of sugar a day may be classed among the former; those who pass more than thirty or forty belong to the second class. Professor Lasègue attaches great importance to this division, for as the small diabetic patient never becomes a great one, each class retains its peculiar character; from which it may be concluded that a patient who presents great irregularities in the quantity of sugar he excretes, and appears to pass from one class to the other, is affected more with accidental or casual diabetes than with the true affection. A third class of diabetic patients is what Professor Lasègue calls "les diabétiques fixés," and these may be found among the two former classes. In this class of cases the quantity of sugar excreted varies only by a few grammes, whatsoever the treatment employed, or the diet adopted, but this should not be considered of much importance in a prognostic point of view, the quantity of sugar not being a fair criterion of the gravity of the disease; for although the proportion of sugar in the urine may remain stationary, the extent of the general disorder of the system may still be very considerable. This, however, does not apply to patients who pass 200 or 300 grammes of sugar in the twenty-four hours; these cases must be considered exceptional, and always of some gravity. M. Lasègue establishes two other forms of diabetes, which he designates the remittent and intermittent; in the first case the quantity of sugar was considerably reduced; in the second the sugar disappears, sometimes even completely, at certain periods; and although these states of remission or intermission may be considered more favorable than the other forms, yet patients of this category become cachectic, as patients of the other classes almost invariably do. This state, according to M. Lasègue, would constitute the principal indication of treatment; but he does not approve of the severe restrictions generally placed upon the diet and regimen of diabetic patients. He allows them to continue their usual mode of living, not even depriving them of farinaceous substances, or the use in moderation of sugar, water, or wine. As for gluten bread, so much prescribed for these cases, M. Lasègue condemns it *in toto* as not only being worthless, but it ends by disgusting the patient, takes away his appetite, and so hastens the cachectic state, which it is the very object of the physician to avert by all the means in his power.—*Lancet*, October 28, 1882.

THE TREATMENT OF EFFUSION INTO JOINTS.—PROF. VOLKMANN observes (*Centralblatt f. Chirurgie*, August 19, 1882) that in chronic effusion into the joints, he has several hundred times punctured and washed out the cavity with a solution of carbolic acid of from three to five per cent. without ever meeting with any accident or disturbance. As a general rule, from ten to fifteen syringes full, each capable of holding forty-five ccm., had to be employed, and the fluid allowed to run away, before it was discharged clear; the synovial fluid, which the added carbolic acid speedily renders turbid, was then known to be entirely removed, and the joint thoroughly washed. In order that the carbolic acid might exert its influence on every part of the surface of the capsule, the joint was then moderately filled by the injection of from one to three syringes full, and then submitted for a short time to movements of flexion and extension. A larger quantity of the solution than this was never left in the joint. No symptoms of carbolic intoxication were ever observed. After the washing-

out was finished, the limb was always surrounded by a Lister dressing, and kept immovable for some time on a splint. When the effusion was not of too old a date, recovery has always followed a single puncture and washing-out, although, as a rule, firm bandaging is required for the prevention of relapse, for diminishing the thickening of the capsule, etc. In bad cases, with great distention of the capsule and ligaments, due to large and old effusions, the puncture and washing-out have to be repeated two, three, and even four times, at intervals of several weeks, before the capsule contracts sufficiently. Iodine injections, which Prof. Volkmann formerly employed frequently, he has now discontinued. They have no advantage, and occasionally give rise to suppuration of the joint. In the worst cases with great distention and thickening of the capsule, villous growths, large fibrinous coagula, dropsy, loose bodies, or *gonitis fibrinosa* without fluid exudation, Prof. Volkmann always makes a double incision into the joint and introduces two short drainage-tubes, which, after carefully washing out the joint, are left in as long as any secretions issue through them. He is unable to say how often he has performed this operation, by far the most frequently executed on the knee, but certainly more than a hundred times. Even in these cases only disturbances of a very slight nature were met with, although bad cases were often treated. The general conclusion, therefore, is that both puncturing and washing-out the joint, and the double incision and drainage with the aid of antiseptics, may be declared to be operations unattended with danger and followed by satisfactory results. How thoroughly Prof. Volkmann has been convinced of this may be inferred from the fact that for a series of years he allowed Prof. Rancke to attach a manometer to the trocar, in order to institute experiments on the intra-articular pressure in the living man. None of these experiments did the slightest harm to the persons on whom they were performed.—*Practitioner*, November, 1882.

ERYSIPELATOUS ORGANISMS.—In several patients suffering from erysipelas FEHLEISON has found micrococci to be constantly present in the lymphatic vessels of the skin in the parts invaded by the inflammation. He has endeavored to ascertain whether these organisms can be regarded as the veritable cause of the disease. The method of his proceeding (according to an abstract which has appeared in the *Gazette Médicale de Paris*) was to excise minute fragments of skin, having first washed the surface with ether and with a solution of corrosive sublimate. These fragments were afterwards placed in gelatine prepared after the method of Koch. The micrococci rapidly grow, forming an abundant vegetation around the small fragments. By means of a platinum needle the mould was transplanted from one spot to another on the surface of the gelatine, and a thin membrane formed around each point of inoculation. The colonies of micrococci grow slowly, and at the usual temperature of the air their development soon became arrested. The organism appeared identical in appearance with those seen in the fresh preparations, except that in the gelatine the micro-organism formed longer chains. Fehleison tested the virulence of the fourth generation of these organisms by an operation which most of our readers will probably agree with us in considering wholly unjustifiable. He inoculated the germs in the skin of the gluteal region of a woman, aged fifty-eight, suffering from multiple fibro-sarcomata of the skin. The inoculation was made by five punctures with a lancet. Up to that time the temperature of the patient was normal. On the evening of the inoculation the temperature was 37.7° C., but the next day the woman had a slight rigor, headache came on in the course of the day, and in the evening the temperature was 38.8° (101° F.). On the morning of the third day it was 37.2°, and in the evening 37.8°. On the fourth day another rigor occurred, and there was found on the left buttock an erythematous patch, prominent and circumscribed, having all the characteristics of erysipelas, and during the day it spread considerably in extent. The temperature was 40.4° (104.7° F.) in the morning, and 40.6° in the evening. On the fifth and sixth days the temperature was 41° C. (105.8° F.), and on the latter the woman fell into a state of collapse, from which she was roused by a subcutaneous injection of ether. On the seventh day the erysipelas occupied an area of a square foot. It remained stationary during the next three days, the temperature oscillating between 39.2° (102.6° F.) and 40.6° (105° F.); then the erythematous patch began to subside, but the temperature continued raised, and even on the thirteenth day was 40.0° (104° F.), but after the fifteenth day it was normal. As a consequence the infiltrations of the skin seemed to have slightly lessened. The author remarks that erysipelas can readily be communicated to rabbits, especially if the inoculation is made upon the ear. We echo the hope expressed by the editor of the *Gazette Médicale*, that those who endeavor to corroborate the observation, if rabbits do not suffice for their needs, will have the courage to operate on themselves.—*Lancet*, November 4, 1882.

TREATMENT OF CERTAIN SKIN DISEASES BY LINEAR SCARIFICATIONS.—AUBE (*Thèse de Paris*, 1881) concludes:

1. Linear scarifications constitute the best mode of treatment in tubercular lupus.

They are to be preferred to scraping, either alone or in conjunction with the former.

In erythematous lupus, scarifications act with less promptitude, and in acneic lupus they are ineffectual unless carried deeply and combined with punctures.

2. Together with this means, internal medication should always be employed.

3. Scarifications are seldom useful in the treatment of vascular nævi; yet it is well to give them a trial in such cases by operating on a small portion of the tumor.

4. They are more serviceable, when combined with epilation, in parasitic sycosis, with abscess of the derma, as also in non-parasitic sycosis (*impetigo sycosiformis*).

5. Greasy seborrhœa, so refractory under other treatment, is amenable to this.

6. In rosacea, scarifications can only be relied on before the hypertrophy has become too far advanced.

7. Notwithstanding apparent counter-indications, this practice has been successfully employed in some cases of keloid.

8. Scarifications probably act in several different ways—by substitution or revulsion, and also by obliterating a certain number of bloodvessels, so as to prolong the life of the healthy tissues, while those already becoming devitalized are disposed of by cutting off, even though but partially, their sources of supply.—*Journal of Cutaneous and Venereal Diseases*, November, 1882.

OZONIZED AIR AS AN ANÆSTHETIC.—PROF. BINZ has just published a second communication on the anæsthetic and hypnotic properties of ozone, but his results are marked by great inconstancy, and are no more encouraging than those first published; in some instances the inhalation of ozonized air soon caused sleep, while in other cases no effect whatever was observed.—*Berliner klin. Woch.*, October 23, 1882.

Cæsarean Section and Ovariotomy without Anæsthetics.—Johnen (*Centralbl. f. Chirurg.*, 1882, Nos. 9 and 20) states that his teacher, Kilian, advised the disuse of anæsthetics during the operation of Cæsarean section, as he considered that great harm was frequently done by the production of vomiting, and that a conscious patient was not only less apt to disturb the surgeon by movements or straining than an anæsthetized one, but might aid him materially during the operation. He further thought that narcosis increased the tendency to subsequent hemorrhage. Johnen has acted on this recommendation, not only in Cæsarean section, but also in ovariotomy, and is so well satisfied that he now regards "narcosis" in Cæsarean section as "always unnecessary and often hurtful." In ovariotomy he considers it should only be induced in certain cases (not described) "where some psychic or somatic peculiarity renders it advisable." Riedel has performed ovariotomy twice, giving only enough chloroform at the beginning of the operation to render the patient insensible to the pain of the incision through the skin. He finds that the subsequent steps of the operation, even the securing and division of the pedicle, cause no pain, and that the patient can talk, drink wine, and move herself freely during the operation if requested to do so. Köenig lately performed ovariotomy on a "very decrepit" woman aged 65, removing a cyst which held "three large bucketfuls" of fluid, and tearing thorough firm adhesions, without anæsthetics. The patient made no complaint except during the first incision and during the introduction of the superficial sutures of the integument. These surgeons claim that the patients who are not anæsthetized are in better condition after the operation than those who are, and recover better.—*Glasgow Medical Journal*, November, 1882.

The Fermentation of Nitrates.—The researches of Schloesing and Muntz have shown that the formation of nitrates in the soil and in organic liquids is due to the development of ærobic organisms. Certain facts recorded by Boussingault, Schloesing, and others have suggested to MM. Gayon and Dupetit that the opposite process, the reduction of nitrates, may also take place in a similar manner. The results of an investigation which they have made has been communicated by them to the Académie des Sciences of Paris. To street drain water nitrate of potash was added in the proportion of .02 gramme per litre, and then some decomposed urine. The nitrate disappeared gradually, and the liquid became filled with microscopic organisms. Successive cultures of these enabled the experimenters to effect the reduction of one and even two decigrammes of nitrate of potash per litre. By employing decoction of chicken as the basis they were enabled to decompose as much nitrate as amounted to 5 per cent. of the liquid. That the organisms which developed under these circumstances were really the cause of the denitrification was proved by sterilizing the liquid by heat, or by the addition of chloroform, or sulphate of copper, when the nitrate of potash underwent no alteration. The organisms concerned seem to be anærobic; if they were cultivated in a large surface, and in contact with air, either they did not produce the effect at all, or their action was considerably lessened. The temperature most favorable to the process was found to be between 35° and 40° C. The presence of organic matters is absolutely necessary, but all organic substances are not equally suitable. Of those which have been tried, olive oil, and oil of sweet almonds, glycerine, glycol, sugar, alcohols of the fatty series, tartrates, etc., the best results were given by sugar, ordinary alcohol, and propylic alcohol. For instance, three or four drops of the latter, added to a liquid in which the denitrification was suspended, at once renewed the process. The oils became rapidly saponified. Considerable interest attaches to the action of two substances, carbolic acid and salicylic acid. Employed in the proportions usually considered to be antiseptic, and even in still larger quantities, they not only did not interefere with the growth and activity of the organisms, but were themselves destroyed with the nitrate, just as sugar or propylic alcohol would be. The destruction of carbolic acid by organisms has been already observed by Muntz, even when it amounts to several grammes per litre. Thus under favorable circumstances the process of the destruction of nitrates presents all the characters of an energetic fermentation. It is accompanied by a rapid growth of organisms, and an abundant liberation of gas. This gas consists of pure nitrogen, and represents a considerable proportion of that contained in the nitrate. The rest probably forms ammonia. The oxygen forms carbonic acid, which remains combined in the liquid. The influence of the organic matter is thus to cause the products of the fermentation of the nitrate to enter into new combinations. Other nitrates behave in the same manner as the nitrate of potash.—*Lancet*, Nov. 4, 1882.

Bacteria of Ophthalmia Neonatorum.—Dr. Fedor Krause has adopted Koch's method in cultivating the micrococci of ophthalmia neonatorum (*Berl. klin. Woch.*, No. 37). The cultivation from pus succeeded only at a hatching temperature, and in sterilized blood-serum of mutton. The further cultivation of the pure material was found to be possible at the temperature of the room in every favorable kind of food. Pus from the eyes of twelve children was used, and in all these cases a pure cultivation was obtained, after the presence of the characteristic micrococci had been demonstrated in the secretion. In two cases the breeding was continued by successive inoculations up to the forty-second and fiftieth generation. The micrococci are figured like two rolls opposed end to end; they retain their appearance for the most part in cultivation in artificial media, though they may present alterations in size. In pure culture the luxuriating micrococci appear gray and yellowish under a low magnifying power; they grow uncommonly slowly, and spread themselves out in the form of a thin covering away from the point of inoculation towards the sides of the vessel; the surface of the film has a moist appearance. Inoculations performed on the cornea, conjunctiva, and urethra of adult rabbits, on the cornea and conjunctiva of young cats, pigeons, and mice, yielded negative results, whether the material used was pure discharge from the eye or that from a pure breeding. As little result was got by subcutaneous injection into rabbits and mice. But inoculation with stuff from pure cultivation caused in new-born rabbits a purulent ophthalmia, which came on in twenty-four hours, and in one animal led to marked suppuration and finally ulceration of the cornea. In researches on five cases of granular lids, no bacteria were found in excised bits of the mucous membrane, and a negative result was the outcome of cultivation experiments—*i.e.*, to ascertain whether breeding would render the micrococci visible, as there might have been so few as not to have been found by the microscope.—*Medical Times and Gazette*, November 4, 1882.

Cysticerci and Tapeworm.—The coexistence of cysticerci and tæniæ in the same subject at the same time has been very rarely noted. An instance was described by MM. Rathery and Sevestre at a recent meeting of the Société Médicale des Hôpitaux. The existence of the tapeworm (tænia solium) was not suspected until it was found post mortem in the small intestine. The patient died from heart disease. Fif-

teen or sixteen cysts were found in different parts of the body. All were situated in the substance of the muscles. The existence of heart disease, and of hæmaturia shortly before death, had led to a suspicion that some of the cysticerci might be located in the kidneys or heart, but the autopsy showed that all the viscera were free.—*Lancet*, November 4, 1882.

THE HYPNOTIC VALUE OF TANNATE OF CANNABIN.—DR. FRONMÜLLER, of Furth, has been investigating the properties of a preparation of Indian hemp, the tannate of cannabin, which he obtained from Merck, of Darmstadt. The tannate of cannabin is a yellowish-brown powder, insoluble in water or ether, slightly soluble in alcohol, and easily dissolved in water made slightly alkaline. It has a taste like tannin, and a not unpleasant smell. In the distillation of Indian hemp, two volatile oils are developed, cannabin oil and its hydrate. These are rapidly acting irritant poisons. They are said to be removed in the preparation of the tannate. Dr. Fronmüller states that he has used Indian hemp itself for thirty years, and that there has been a steady increase in the strength of the preparations furnished him. Thus, thirty years ago, he began with a dose of eight grains, ten years later he had to reduce it to four, and latterly to two grains. The dose of the present preparation, the tannate, ranges between gr. ii and gr. x, the most frequent dose being gr. v. The drug was used fifty-seven times in hospital, and six times in private practice. The patients consisted of twenty-one men and forty-two women, for the most part between twenty and forty years. Forty of them were suffering from phthisis, the remainder had different diseases, generally of a chronic nature. The common symptom in all cases was insomnia, and it was for its hypnotic effect that the cannabin was given. Good results were obtained in thirty-seven cases out of the sixty-three, and moderately good results in fifteen cases. It was called a good result when quiet and uninterrupted sleep came on within an hour after taking the medicine, the patient awakening with no toxic after-effects. In twelve cases no result was produced. Many of the patients had been taking opium. From the sixty-three trials thus reported, Dr. Fronmüller concludes that *cannabin tannicum* is a very useful hypnotic, powerful without being dangerous, and one which does not disturb the secretions or leave unpleasant toxic after-effects, if given in proper dose.—*Practitioner*, Nov, 1882.

MERCURIAL SALIVATION.—At a recent lecture at the Hotel-Dieu, DR. PANAS (*Gaz. des Hôp.*, No. 9) strongly insisted on the employment of means for the prevention of mercurial stomatitis, which, in his opinion, is no indication of the system being saturated with mercury. It is a complication which greatly impedes treatment when it occurs, and which depends upon an anterior alveolo-gingival stomatitis, and may be always prevented by curing in advance, by local means, the condition of the gums and alveoli. This treatment consists first in the removal of the tartar, and then in the application of substitutive topical substances, the chief of which employed by Dr. Panas are tincture of iodine, and carbolic acid diluted to a twentieth; these substances, to be of use, being introduced to quite the bottom of the alveoli. If the gums are quite healthy, and astringents are applied daily (as tannin, catechu, etc.), they may be kept sound and healthy however long the mercurial treatment is continued; and when patients come in with ulcerated or bleeding gums, and loosened and displaced teeth, this condition of things may be remedied in a few days by the above-mentioned procedure. If such precautions be not taken, the irritating action of the mercury exasperates the stomatitis and brings on salivation. Dr. Panas considers the much-praised chlorate of potash quite inefficacious in salivation, and even capable of doing harm by the irritation it produces.—*Medical Times and Gazette*, November 4, 1882.

SUPRA-CLAVICULAR PSEUDO-LIPOMA AND RHEUMATIC ŒDEMA.—M. POTAIN read a paper with the above title before the Académie de Médecine, at the meeting held October 7, 1882. This paper is a reply to the memoir of Verneuil on supra-clavicular pseudo-lipoma, which was described as being characterized by a swelling in the supra clavicular fossa, which is thus transformed into a prominence slightly above the level of the adjacent parts. M. Potain has been able to confirm Verneuil's descriptions, and gives an account of twenty cases in which the elastic swelling was found; in all of the cases there was a marked rheumatic diathesis. In some cases the swelling exceeded the limits of the space, bounded by clavicle, sterno-mastoid, and trapezius, and in a few instances similar tumors were found in other localities where there is normally found loose cellular connective tissue capable of sustaining deposits of fat. Distinct œdema was also associated with these tumors, and M. Potain believes that both the œdema and morbid increased deposit of fat are caused by the same morbid tendency.—*Le Progrès Médical*, October 21, 1882.

REDUCTION OF DISLOCATIONS OF THE SHOULDER.—The number of modes of reducing dislocations of the shoulder shows that the best plan is yet generally unknown. A valuable paper on this subject was read by M. KOCHER at the meeting of the International Congress in London. Referring only to the subcoracoid form of dislocation, he asserts that the aim of the surgeon should be to open out the rent in the capsule, and to relax the parts of the capsule which are untorn but tightly stretched by the false position of the head of the humerus. The rent in the capsule is on the inner side of it; the most tense part is in the upper portion, where it is thickened by the coraco-humeral band; the lower part of the capsule is also tense. Kocher asserts that by rotating the arm outwards the top of the capsule is itself rotated out and the rent rendered patent. If now the arm be advanced in the vertical median plane, the upper part of the capsule is relaxed, and the head of the bone, being prevented passing forwards by the lower fibres of the capsule, enters the glenoid fossa. He accordingly directs that for the reduction of this dislocation the following manipulation should be practised. The patient should be seated, with the surgeon on his left hand. The elbow-joint is first to be flexed to a right-angle, and the joint firmly pressed against the side of the chest; then while holding the elbow in contact with the body the arm is to be slowly, gently, and steadily rotated out until firm resistance is encountered; then maintaining this rotation the arm is to be raised forwards and a little in, and lastly to be rotated in and the hand brought towards the opposite shoulder. It is stated that there is no need for anæsthetics when this manipulation is employed. This method, which has great advantages over those in common use in this country, is stated by M. Ceppi (*Revue de Chirurgie*) to be especially valuable in old dislocations, enabling them to be reduced often without any force and without anæsthetics. M. Kocher has succeeded in twelve cases of dislocations, varying from three weeks to four months old. In one case, where the bone had been displaced for eight weeks, he fractured the shaft of the humerus in attempting the reduction, and six weeks later, when the bone was united, failed again. The patient was seventy years of age. We believe that this method of reduction is worthy of far more attention than it has yet received.—*Lancet*, November 4, 1882.

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THE LEGAL RELATIONS OF PHYSICIANS AND THE CORONER.

TIME was when the coroner's inquests were numbered by the score: now it is by the hundred, and threatens soon to be by the thousand. The coroner's claims have gradually been extended to cover large classes of cases never contemplated by the law, until there are few citizens who have escaped disagreeable contact with his office, and the public treasury is depleted at least by additional expenses if not by additional salary. We are glad to see that the Supreme Court of Pennsylvania has lately decided a case so clearly that its result must be to restrict coroners in this State within their just limits.

Mishler, the Coroner of Lancaster County, sued the County to recover fees for an inquest in a case of death from "a paralytical stroke." The Supreme Court held that where there is "no ground for suspecting that the death was not a natural one, it is a perversion of the whole spirit of the law to compel the county to pay him for such services," and he is not to be paid.

The only object of a coroner's inquest in any case is here indicated, viz., when death is presumably *not from natural causes*, but from accident, poisons, or other unnatural causes, the coroner investigates the case with a view to determine whether any person is responsible for the death, and if so, to take the necessary steps to bring him to justice.

There is so much ill-defined knowledge of the law as it exists in Pennsylvania, and especially in Philadelphia, that it will be well to examine it and state it clearly for the information of the profession.

In order to understand exactly what the law is, let us quote it from the *Medical Register*, page 279: "It shall be the duty of the coroner of the city and county of Philadelphia, to hold an inquest on the body of any deceased person who shall have died of violent death, or whose death shall be sudden; *provided* that such sudden death be after an illness of less than twenty-four hours, and that no regular practising physician shall have been in attendance within said time, or that suspicious circumstances shall render the same necessary, which said suspicions shall first be sworn to by one or more citizens of said city."

There are therefore three classes of cases in which it is both the right and the duty of the coroner to hold an inquest. First, in all cases of certain violence. Yet we have known his right to be contested and a physician to give a certificate in a case of death from burn, and again, not long since, in a case of death after a fracture of the thigh from a fall—both clearly encroachments on the rights of the coroner to the disadvantage of the community. For in *all* cases of death by violence (which includes murders, suicides, accidents, poisonings, etc.) the fact as to whether any person was responsible for the violence must be established by a judicial investigation, *i. e.*, by the coroner.

Secondly, cases in which though violence is not certain, yet there are suspicious circumstances about them. But these suspicions must be sworn to by at least one citizen before the coroner dare interfere.

The third class, however, is the one about which there is the chief misapprehension. It is a very wide-spread opinion that the law requires the coroner to be informed, and to hold an inquest, in every case in which the physician has been attending for less than twenty-four hours before death. This is not the case. The exact requirement of the law is twofold: first, that the *sickness* has been of *less* than twenty-four hours duration; and, secondly, that *no* physician has been in attendance within said time. If, in any case of sudden illness of less than twenty-four hours' duration, a physician *has* been in attendance, at *any time* before death, no matter how short that time be, it is not only his right, but his duty, to give a certificate, unless, of course, the case should belong to either of the classes previously described.

Cases of sudden death after an illness of *more* than twenty-four hours' duration, do not come under the jurisdiction of the coroner, whether any physician has been in attendance or not.

And the word "attendance" is evidently not to be construed to mean an actual visit to or by the patient within the last twenty-four hours before death. Dr. Walter F. Atlee's case, a year ago, is in point. A patient with valvular disease of the heart, who came

to his office once in a week or so, suddenly died. Dr. Atlee very properly gave a certificate. But we are informed that the coroner actually exhumed the body without the knowledge of the dead man's relatives, made a *post-mortem* examination and held an inquest, all in clear violation of the law, unless there were suspicions sworn to before the coroner. At the inquest he also formally fined Dr. Atlee $25 for giving the certificate. We do not believe that there is any law authorizing such a fine, even if Dr. Atlee had done wrong, and we do know that Dr. Atlee defied the coroner to collect the fine, and he has never dared to attempt it. Sudden death is, indeed, to have an added horror, if in every case in which a physician has not actually seen the patient for twenty-four hours before death, and in which not the slightest suspicion of any violence or wrong exists, a body more precious to us than gold, is to be given over to the rude handling of strangers, a repulsive legal *post-mortem* examination is to be made, the house of mourning to be ruthlessly invaded, and the heart-stricken relatives, while awaiting the funeral, to be forced to appear amid the unsavory crowd about the coroner's office, and the facts to be blazoned abroad in the public press! Most certainly in this case the coroner exceeded his functions. All of us have patients whom we only see once in a week, a month, or even three or six months; as, for instance, cases of infrequent epileptic fits, chronic Bright's disease, Potts's disease, paralysis, slow spinal disease, heart diseases, in nearly all of which sudden death may, and often does, occur, and in which a certificate of death it is not only our right, but our duty, to give, if it be the result of the already existing disease. If, however, it be from an intercurrent disease then the case must be decided upon its merits, independently of the chronic disease.

The law of March 8, 1860, section 3 (*Medical Register*, page 274), requires "that whenever any person shall die in the city of Philadelphia, it shall be the duty of the physician who attended during his or her last sickness, or of the coroner when the case comes under his notice, to furnish within forty-eight hours after the death . . a certificate setting forth, as far as the same can be ascertained, the full name, sex, color, age, and condition (whether married or single) of the person deceased, and the cause and date of death," and section 5 fines him five dollars for either refusal or neglect to do so.

But suppose the physician, called, it may be a short time before death, is not certain of the cause of death, what shall he do? We take it that if no violence has occurred, and no suspicious circumstances require its being reported to the coroner, that it is the right and the duty of the physician to give a certificate stating the cause of death, in the words of the law just quoted, "so far as the same can be ascertained." If there be no violence and nothing suspicious about the death, society does not care a button as to whether it was this or that disease. It is purely a scientific question. The doctor, therefore, should request a post-mortem examination, and in nearly all cases upon proper explanation this would be accorded, and would clearly reveal the cause of death. Where it is refused he should report that fact with all other necessary information to the Health Officer. But if there be the slightest suspicion of wrong, he should report it to the coroner. But according to the strict letter of the law, we do not see that the coroner could take charge of the case, unless the suspicion were sworn to. That, however, concerns him and not the doctor.

But suppose *no* physician has been in attendance during the last illness, may a physician called after death give a certificate? Clearly not, though we have heard of its being done. What then is proper? Who will give the necessary certificate? If the illness has been of less than twenty-four hours duration the coroner must be notified, and he must hold an inquest, and if need be have a *post-mortem*, and he will furnish the certificate. If the illness has been for more than twenty-four hours (and there is no violence or suspicion of wrong-doing), it does *not* come under the coroner's jurisdiction, but the law of 1860, section 4 (*Medical Register*, page 275), specially provides that "in case any person shall die without the attendance of a physician, or if the physician who did attend at the time of the death refuses or neglects to furnish a certificate as aforesaid, it shall be the duty of the undertaker, or of any other person acquainted with the facts to report the same to the Health Officer, who shall be authorized to give a certificate of death as aforesaid, provided it be not a case for the attendance of the coroner," which last we have shown is not the case.

Very many of the inquests by the coroner of this city are held without any warrant of law. Especially is this the case in our hospitals. No matter what the duration of the illness in a hospital patient, as a physician is in attendance in every case, the coroner has no right to make a *post-mortem* or to hold an inquest, except where the death results from violence or there are suspicious circumstances which are sworn to.

We have quoted the law from the *Register* as it is more accessible to the profession, and by a comparison with West's Digest we have ascertained its correctness.

"THE GOSPEL OF RELAXATION."

HERBERT SPENCER never lacks an audience. His criticisms on us as a people are both timely and in

the main just; and they have been read with both interest and profit. In his recent after-dinner speech, or homily, as he called it, he has taken us to task for our overwork, and our early gray hairs; but withal, it seems to us that he missed one clear distinction which it is of the utmost importance to bear in mind—a distinction which his countryman and our distinguished *confrère*, Mr. Seymour Haden, however, has not forgotten, and of which physicians are, in an eminent sense, the best judges —namely, the distinction between *worry* and *work*. Indeed, Mr. Spencer himself is a conspicuous example of the truth that even a feeble man, physically, if he will work wisely and in a way to avoid great friction, may accomplish even herculean tasks.

We do not believe that work alone, even when fairly prolonged and severe, frequently shortens life. It is rather the worry that too often goes hand-in-hand with it. Our furious methods of work, our intense excitement, these are the evils that are to be deprecated above all others. Of course, we assent to Emerson's doctrine that a man must first of all be "a good animal." We say Amen! to the preaching of the "gospel of relaxation," as well as to the scriptural maxim, to learn of the ant. Monotonous daily toil will furrow the face, and make the healthy, hearty child prematurely old. Intense application to business breaks down many a merchant. Black Fridays will kill or maim many a stock-broker and speculator, whether in grain, or cotton, or stocks. But what does all this mean? A struggle for bread, an intense strain on the nervous system, a heedless, headstrong hurry to be rich. The mast that will endure a steady gale will snap and go by the board after oft-repeated sudden flaws.

We doctors see this only too often in our patients, and not a few of us exemplify it in our own lives. When work becomes a "passion," as Mr. Spencer points out is too often the case on this side of the Atlantic, it ceases to be work pure and simple. It is accompanied by great anxiety and by heavy responsibilities. Thousands of dollars, it may be one's whole fortune, are at stake; meals are hurriedly eaten, or are not eaten at all; the hours properly claimed by relaxation and recreation are given up to planning for the morrow's business; even the hours of sleep are curtailed; and such high-pressure work, such worry and friction, soon tell on the physical health. Digestion is impaired; sleep will not be woed even by weary eyelids; the worried brain, never rested from its anxious cares, at last gives out, and the hale man of yesterday is to-day a wreck. None has more clearly or forcibly shown these evils in their true proportions than Dr. H. C. Wood in his primer on *Brain Work and Overwork*. The physician is also liable to be a victim of such unwise methods of work. The very nature of his profession involves great worry. The larger his practice, the larger the number of his serious and important cases. Men of influence and large business, women of social and family distinction, lying at the point of death, tax his skill to the utmost, and weigh him down with care. Disease will not brook any "thus far and no farther," but encroaches on his hours of sleep, of meals, and of recreation; and he, too, follows his patients to sickness, and sometimes to the grave.

Moreover, these evils are often exaggerated and reinforced by the vicious means employed to stay the evil, or to gratify the passions. Excessive use of stimulants and narcotics, such as alcohol, tobacco, coffee, and the like, often provide a temporary relief, only to be followed by greater subsequent depression, and surer disaster.

But we believe a brighter day is dawning. As society accumulates wealth it is more apt to take its ease. The London Stock Exchange, or the Paris Bourse, is very much like that of New York or Philadelphia, but, as a rule, Englishmen take life much more easily than we do. The east and the west in this country, while alike greedy of gain, differ materially in their methods of living as a people. The tone of society changes perceptibly the further one goes west of the Alleghanies. Moreover, our people are learning the value of the summer holiday. Of course there are men who make Long Branch and Saratoga a part of Wall Street, but the population as a whole take far more and far longer holidays than they did twenty years ago. Who but nabobs then had seaside or country houses to which they took their families for weeks and months? What business man a score of years ago claimed more than a week or ten days as his own? What stores closed at 5 P. M., and on Saturdays at 3, or even at 1 o'clock, in July and August, till within a decade?

Rest and relaxation are steadily growing in favor, and so diminishing friction; and while business men are building larger establishments than ever before, yet they are wise enough to hire skilled labor to take responsibility as well as to do manual work.

CIRRHOSIS OF THE LIVER.

IN a recent lecture on cirrhosis, LANCEREAUX recognizes several forms: the syphilitic, the malarial, the alcoholic. In that form of the disease due to syphilis, the liver is deeply lobulated, furrowed, and adherent by strong fibrous bands to the neighboring organs. The connective-tissue formation which divides the different parts of the parenchyma grows thicker towards the periphery, and the cellular hyperplasia is especially abundant about the lymphatic

and arterial systems. Ascites rarely occurs, and when present is readily cured. There is neither dilatation of the veins nor icterus, unless, indeed, the new formations compress the biliary ducts.

The malarial liver has a considerable size; its consistence is firm, and its surface presents a granular appearance, but less so than the alcoholic liver. The color recalls the appearance of granite or porphyry. The hyperplasia of the connective tissue, both inter- and intra-lobular, preserves the embryonic character, and the gland-cells contain numerous pigment granules. The principal clinical characteristics of these cases are increase in the volume of the liver and of the spleen, long-standing icterus, and slow development without pronounced symptoms.

Alcoholic cirrhosis presents itself under two forms. 1. The liver increased in size, the surface glazed or tanned, and presenting a hyperplasia of the connective tissue, both inter- and intra-lobular, with granular and fatty degeneration of the gland-cells. 2. Contracted, hard, fibrous, and marked by granulations of considerable size, generally distributed throughout the organ.

The diagnosis in the alcoholic form rests on the considerable emaciation of the patient, the dryness of the skin, the enlargement of the abdomen due to the accumulation of fluid, and the increasing dilatation of the veins of the abdominal wall. Death is usually due to mechanical interference with respiration. In the syphilitic form the liver, by reason of its volume, resembles the condition due to malarial poisoning, and ascites is equally wanting. Although jaundice is a protracted symptom in the malarial liver, it is a concluding symptom in cirrhosis of alcoholic causation.

THE DIAGNOSIS OF UNILATERAL RENAL DISEASE.

IN our issues for March 4th and 11th we considered the question of renal operations at some length, and recognized the fact that there was great difficulty in some cases of deciding on which side the disease existed, and whether the opposite kidney was sufficiently active to justify the removal of the diseased one. Glück has lately proposed what is at least an ingenious method of deciding this question, which doubtlessly will be tested before long and its value determined. He proposes, after exposing the presumably diseased kidney through a small wound, to secure the ureter by a temporary clamp or ligature; if a double ureter exist, both tubes must be closed. A solution of ferrocyanide or iodide of potassium, or some other rapidly eliminated salt, is then to be injected subcutaneously and the urine tested in a few minutes. If no evidence of the salt appears in the urine, the presumption is against the normal condition of the opposite kidney, and the operation should be abandoned. Of course a single, horse-shoe kidney could not be diagnosticated, and the proposed exploration might prove to be so difficult as to be unjustifiable; but in ordinary cases of doubt, the suggestion is at least deserving of consideration.

PRECAUTIONS AGAINST CONTAGIOUS-DISEASES.

SOME months ago we adverted to the want of legal provision to prevent the spreading of contagious diseases by funerals, hacks, etc., and we are glad to see that the Philadelphia City Council's Committee on Law, at the instance of the Board of Health, have agreed to report an efficient bill which may well serve in most respects as a model to other cities that have none. As the matter is of such great importance and wide application, we note briefly its provisions.

Any person sick with a contagious disease using any public conveyance without previous notification to the driver, is to be fined $25 and to recoup the driver for all consequent expenses and losses. Public funerals in the case of death from a contagious disease are prohibited under a penalty of $50, and the person authorizing the notice of the death must publish the cause of death under a penalty of $10. Persons letting houses or rooms without being thoroughly disinfected, which have been occupied by patients sick of such diseases, are liable to a fine of $100, and any person who exposes himself, or any attendant who allows him to expose himself without proper precaution in the public streets or conveyances, or any one who similarly exposes bedding, clothing, rags, etc., which may thus spread disease, is to be fined $25.

One most serious and fertile source of contagion unfortunately has been forgotten. There should be a penalty inflicted on parents who send their well children to public schools while cases of scarlet fever, measles, smallpox, or varioloid exist at home. Careful parents under competent medical guidance might often do so without harm; but it would scarcely do even to trust to a doctor's certificate that the circumstances would render it safe, for the doctor is often ignorant of what relaxation of his rules exists when he is absent, or he may be too good-natured, or anxious not to offend by a refusal. So many of the public school children come from houses in which the physical conditions are such that proper isolation cannot possibly be had, that the rule of exclusion must be absolute or it will be worthless.

We commend the bill, and trust that in enacting it into a law the amendment we propose will not be overlooked.

IT is so rare that an Englishman sees anything to praise in this country, that we are surprised to find

the Waverly Convalescent Home warmly commended in a letter published in a recent number of the *Lancet*.

This home is said by the correspondent to be very complete; "indeed," he says, "I have never seen a more model institution than the Waverly Convalescent Home." As some of our readers may not be acquainted with this home which excites the enthusiasm of a "roving correspondent" from England, we venture to explain that it is the convalescent house of the Massachusetts General Hospital. It owes its existence chiefly to the philanthropic labors of Miss Russell, and is devoted to the reception of the *convalescent poor* from the hospital, pay patients being excluded. It is situated at Waverly, seven miles from Boston. It is truly a "model institution," as described by the *Lancet* correspondent, and in this case all the praise bestowed is well deserved. It were well, if all our great public hospitals were provided with "homes" in the country to which their convalescents could be sent, to more effectively recuperate than is possible under the sanitary conditions usually surrounding this class of subjects in our cities.

WE have the pleasure, through the courtesy of Col. Seaton, of laying before the profession a *résumé* of the mortality statistics of the United States which have been collected by the United States Census Bureau, in accordance with plans and forms prepared by Surgeon John S. Billings, U. S. A. These statistics are particularly valuable, since they furnish us for the first time with reliable information as to the death-rate of the whole country, which, it is gratifying to find, compares favorably with that of other civilized countries.

SPECIAL ARTICLE.

MORTALITY STATISTICS OF THE UNITED STATES.

THE Compendium of the 10th Census which is now nearly through the press, and will probably be ready for issue by the time Congress meets, is a very interesting document to statisticians, not only for what it contains, but for the glimpse which it gives of what may be expected in the full quarto reports.

Through the courtesy of Col. Seaton, we are able to give our readers so much of the text of the Compendium regarding the mortality statistics as is of special interest to physicians, independent of the tables which belong with it.

The total number of deaths recorded and tabulated as occurring in the United States during the census year is 756,893, being a death-rate of 15.1 to the thousand. This death-rate is decidedly higher than that given in the census of 1860, viz., 12.5, and of 1870, viz., 12.8 per thousand, but this does not indicate any actual increase in the number of deaths as compared with the living population. It shows, rather, that the efforts made in the census of 1880 to obtain more complete returns of deaths than had been collected in previous enumerations have been to some extent successful.

Excluding the States of Massachusetts, and New Jersey, and also the following named cities: Baltimore, Bangor, Brooklyn, Chicago, Cincinnati, Charleston, Cleveland, Indianapolis, Louisville, Milwaukee, Mobile, Nashville, New Orleans, New York, Philadelphia, Pittsburg, Providence, Richmond, St. Louis, San Francisco, and Wilmington, the number of deaths actually reported by the enumerators was 520,339. To these returns of deaths furnished by the enumerators, there were added from registers furnished by physicians throughout the country, 61,020 additional cases of death. For the States of Massachusetts and New Jersey, and the cities above mentioned, the State and municipal registration records of deaths were copied and used in the tabulations. These records are based on a regular system of registration, and on burial permits, and are therefore probably very nearly accurate. The records give 175,534 deaths.

In order to obtain some positive data from which might be calculated the amount of deficiency in the enumerators' returns of deaths, their returns for the State of Massachusetts, excluding the city of Boston, and for the whole State of New Jersey, have been tabulated and compared with the records furnished from the State registration office, the total deficiency in which is considered not to exceed 2 per cent. The result of this comparison is, that for the State of Massachusetts, excluding Boston, the deficiency in the enumerators' returns amounts to 26.42 per cent. of the whole number returned by them. For the State of New Jersey, the deficiency is 34.45 per cent. It may be considered certain that in no State is the deficiency in the enumerators' returns less than it is in Massachusetts.

The deficiency is greatest in the case of infants, of females, and of foreigners, and increases in a tolerably uniform ratio for each month going backwards in time from the date of taking the census. It is also greater in the more thinly settled sections of the country.

If we take the enumerators' returns, as corrected by the addition of cases obtained from physicians' registers, viz., 2,286 for Massachusetts, and 1,636 for New Jersey, the deficiencies thus corrected amount to 13.34 per cent. of the corrected returns for Massachusetts, and 20.14 per cent. for New Jersey.

If we suppose that after the addition of the 61,020 cases of deaths reported by physicians, to the returns of the enumerators, these last, excluding the States and cities above mentioned, are still deficient as much as 30 per cent, which is believed to be the maximum, the result will be an average mortality for the whole country of 18.2 per thousand of living population per annum. The actual mortality for the whole country, during the census year, was not less than 17, nor greater than 19 per thousand. This rate compares favorably with that of all other

civilized countries. The death-rate in the rural population of England, comprising ten and one-half millions of people, in the year 1880, was 18.5 per thousand. For the whole of England, for the same year, it was 20.5 per thousand. For Scotland, in 1878, it was 21.3 per thousand. In the mainland rural group of Scotland, for the same period, it was 17.3 per thousand.

The low death-rate in this country is considered to be due to the comparative absence of over-crowding, and the more general and equal distribution of the means of supporting life, including, especially, the abundant food supply of good quality for all classes of people.

The most valuable information furnished by the present census, in regard to the health of the country, is derived from those tables which show the relations of various causes of death to sex, age, and locality, since the conclusions which may be drawn from these are comparatively slightly affected by the deficiencies above referred to. The form of the Compendium does not admit the giving of these tables, which are extensive and elaborate; but a specimen of some of the deductions which may be obtained from them will be given by way of illustration.

COLOR.

In a population of 43,402,970 whites, there are recorded 640,191 deaths, giving a death-rate of 14.74 per thousand. In a population of 6,752,813 colored, there are recorded 116,702 deaths, giving a death-rate of 17.28 per thousand. Taking those States east of the Mississippi river which have the largest colored population, viz., Alabama, District of Columbia, Florida, Georgia, Kentucky, Maryland, Mississippi, North and South Carolina, Tennessee, Virginia, and Louisiana (including that part west of the river), we find that the total white population is 8,053,962, and the number of deaths recorded is 113,110, giving a death-rate of 14.04 per thousand. The colored population of the same States is 5,303,267, and the number of deaths among these reported 91,328, giving a death-rate of 17.22 per thousand. It is in this section of country that the deficiencies in the enumerators' returns of deaths are probably the greatest, and they are also probably greater among the colored than among the white population. The difference in mortality between the white and colored is especially well marked in the Southern States, and is largely due to the extensive number of deaths among infants in the colored population.

SEX.

Of the total number of deaths reported, 391,960 were of males, and 364,933 were of females, the total living population being 25,518,820 males and 24,636,963 females. For every thousand deaths of females, there were 1,074 of males. These figures give a male death-rate of 15.35 per thousand, and a female death-rate of 14.81 per thousand. It should be borne in mind, however, that the proportion of female to male deaths is somewhat greater than these figures would indicate.

AGE.

Of the 390,644 deaths of males in which the ages are recorded, 96,894 occurred under one year of age, and 163,880 under five years of age. Of 363,874 deaths of females of which the ages are recorded, 78,372 were under one year of age and 138,926 under five years of age. The proportion of deaths of males under one year of age to all deaths recorded was 248.03 per thousand; of those under five years of age, it was 419.51 per thousand. The proportion of deaths of females under one year of age to those of all ages recorded, was 215.38 per thousand; of those under five years of age it was 381.85 per thousand. The proportion to all deaths of which the ages are recorded of deaths of persons from five to fifteen years of age was 87.57 per thousand; from fifteen to sixty years of age it was 299.66 per thousand and over sixty years of age it was 172.40 per thousand.

CAUSES.

Of the total number of deaths, the causes of death were either not reported at all, or so reported as to be necessarily classed as unknown, in 23,129 cases, leaving a total of 733,764 cases of death in which the causes are distinguished. It is believed that the causes of death have been obtained much more accurately than in any preceding census, owing to the very general aid and coöperation of the physicians of the country in revising and correcting the enumerators' returns with reference to this point. To illustrate some points brought out in the tabulations which have been made, the following figures are given with regard to a few special causes of death.

Diphtheria.—The number of cases of deaths reported as due to diphtheria is, males, 18,849; females, 19,549; total, 38,398; giving a proportion of 51.33 per thousand of all deaths in which the causes are reported. The total number of deaths from diphtheria under one year of age was 2,896; under five years of age it was 20,035; between five and fifteen years of age, 16,162. In table Aa is given the number of deaths from this disease in each State Group of Counties in the United States.

In Grand Group I. (North Atlantic region), the proportion of deaths from diphtheria to the total number of deaths having recorded causes, was 51.29 per thousand, being in the cities (New Haven, Boston, Cambridge, Fall River, Lawrence, Lowell, Lynn, and Providence) 46.71 per thousand, and in the remainder of the group, including the smaller towns and rural districts 53 80 per thousand.

In Grand Group IV. (the Gulf Coast), the proportion of deaths from diphtheria was 12.16 per thousand, being in the city of New Orleans 13.74, and in the remainder of the group 12.27 per thousand.

In Grand Group VII. (being the Lake region), the proportion of deaths from diphtheria was 81.15 of all deaths reported, being in the cities (Chicago, Milwaukee, Detroit, Cleveland, Buffalo, Rochester, and Toledo) 78.15 and in the remainder of the group, 84.10 per thousand.

Enteric Fever.—The total number of deaths from enteric (typhoid) fever reported are: males, 11,852; females, 11,053; total, 22,905, being in the proportion of 31.21 per thousand of all deaths having reported causes. The total number of deaths from this disease, under one year of age, was 654; under five years, 2,707; from five to fifteen years, 3,952; from fifteen to sixty years, 13,945; over sixty years of age, 2,248.

In Grand Group I. (the north Atlantic region), the proportion of deaths from enteric fever to the total number of deaths having recorded causes, was 18.64 per thousand, being in the large cities (for list of which see above) 16.26, and in the smaller towns and rural districts, 19.95 per thousand.

In Grand Group IV. (the Gulf coast), the proportion of deaths from this disease was 22.01 per thousand, being in the city of New Orleans 7.67, and in the remaining portion of the group 30.02 per thousand.

In Grand Group VII. (being the Lake region), the proportion of deaths from this disease was 22.28 per thousand of all deaths reported, being in the large cities 17.16, and in the remainder of the group 27.31 per thousand.

It will be seen from these figures that neither diphtheria nor enteric fever are especially diseases of the large cities. They appear to be more prevalent in the small towns and rural districts which have no general water supply or systems of sewerage, but obtain their water from springs and wells, and observe the usual custom of storing excreta in cesspools or vaults.

Malarial Fever.—The total number of deaths reported as due to malarial fevers is: males, 10,276; females, 9,985; total, 20,261, giving a proportion of 27.61 per thousand of all deaths from reported causes.

The total number of deaths from these fevers, under one year of age, was 2,002; under five years, 6,182; from five to fifteen years, 3,482; from fifteen to sixty years, 7,909; sixty years and over, 26.23.

In Grand Group I. (north Atlantic region), the proportion of deaths from malarial fever to all deaths recorded, was 4.56 per thousand, being in the cities 3.02, and in the remainder of the gronp 5.40 per thousand.

In Grand Group IV., the proportion of deaths from this disease was 65.85 per thousand, being in the city of New Orleans 44.81, and in the remaining portion of the group 77.61 per thousand.

In Grand Group VII. (the Lake region), the proportion of deaths from these fevers was 9.74 per thousand, being for the large cities 8.27, and for the remainder of the group, 11.88 per thousand.

Consumption.—This is the cause of death to which the greatest number of cases are referred in the records, there being reported 40,619 males and 50,932 females as dying of this disease, giving a proportion of 124.76 per thousand of all deaths having reported causes, or a little over 12 per cent. Taking the same groups used above, we find that in Grand Group I., in the cities, consumption caused 150.55 per thousand of all cases of reported deaths, and in the remainder of the group 172.77 per thousand, giving an average of 164.89 per thousand.

In Grand Group IV., it caused, in New Orleans, 152.11 per thousand, and in the remainder of the group 97.66 per thousand, the average being 117.18 per thousand.

In Grand Group VII., it caused in the cities 97.66, and in the rural districts 130.22 per thousand, giving an average of 114.08 per thousand.

It will be seen from these figures that in the North Atlantic and Lake regions, the mortality from consumption is highest in the small towns and rural districts, while on the Gulf Coast the mortality is greatest in the city of New Orleans, in which it is higher than in the northern cities. This is probably due to the fact that New Orleans is not sewered or drained as are the northern cities, and has the soil water very near the surface.

The total number of deaths reported as due to accidents and injuries was 35,932, divided as follows: burns and scalds, 4,786; drowned, 4,320; exposure and neglect, 1,299; gunshot wounds, 2,289; homicide, 1,336; infanticide, 40; injuries by machinery, 120; railroad accidents, 2,349; suffocation, 2,339; suicide by shooting, 472; suicide by drowning, 155; suicide by poison, 340; other suicides, 1,550; sun-stroke, 557; other accidents and injuries, 13,980.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Nov. 16, 1882.

FORDYCE BARKER, M.D., LL D., PRESIDENT, IN THE CHAIR.

AFTER the reading of various reports, the scientific work of the evening was taken up. This consisted of a paper by DR. P. ALBERT MORROW, entitled

EXCISION OF CHANCRE AS A MEANS OF ABORTING SYPHILIS.

Dr. Morrow asked the question, "Is it possible by excision of the initial lesion to destroy the syphilitic virus, and prevent infection of the general system?"

The views of Bell, Hunter, and Ricord, were referred to. They advocated the early destruction of the local sore. In fact, this practice was almost universal among syphilographers until a very recent date. In 1877 Anspitz first *excised* the initial lesion. Previous to that time it had been destroyed by caustics. Since that time numerous excisions have been made, and many apparent successes reported. In Germany the current opinion is largely in favor of this practice. In France it is by no means received with the same favor, and in England the operation has been practically ignored. In this country excision does not seem to have been often practised, and the general sentiment seems to have been averse to its adoption as a means of cure. Some, however, have expressed themselves as favoring it in certain cases.

The operation consisted in lifting up with a pair of forceps the indurated tissue, together with the area of healthy tissue immediately surrounding it, and cutting off the entire mass with a single sweep of the knife. The part is dressed with a compression bandage. The loss of tissue rarely occasions much deformity. Not

infrequently secondary induration occurs, which is the indication for another operation.

It is claimed that this operation is better than the destruction of the sore by caustics or the hot iron. Also, that this simple operation prevents the occurrence of constitutional syphilis in many cases; that if it does not prevent it, the virus is attenuated and in cases of failure it has been recommended as a local adjuvant, because the local lesion is converted into a simple sore, which heals kindly in a few days.

The indication for the operation is when the sore is located where it can be removed without destroying important structures. Obviously enough, the earlier it is performed the greater the chances for success. Some recommend excision of the involved glands, as well as the local sclerosis.

Now if the initial lesion be the local expression of a constitutional condition, it manifestly follows that its removal cannot modify the effects of the disease upon the general system. In experimenting, we are embarrassed at the outset by our absolute ignorance of the nature of the virus; we are concerned with its celerity rather than the course of its progress. The question is, whether generalization of the virus occurs. At first glance it would seem that the theory of excision was the correct one; that the virus being deposited, was powerless to proceed farther until time had elapsed for repose and proliferation; that after this there was gradual implication of the vessels until the nearest lymphatic glands were reached, when it invaded the entire organism.

This conception regards the chancre as a depot of virus. To excise the chancre is to suppress the source of contagion. Opposed to this theory of excision there are many facts. In the exanthematous diseases we have, as is generally believed, local symptoms only after a period of incubation. Vaccine virus produces local trouble after a certain period, which is evidence of the complete saturation of the system.

Glanders of the horse is analogous to syphilis. Other examples might be adduced to prove that there is no possibility of interfering with the course of the poison after inoculation. The evidence furnished by clinical experience was then formulated; it was claimed that there was no distinctive signs by which a syphilitic sore could be distinguished as such before induration had occurred. Of two hundred and twenty-two cases of excision, sixty were recorded as successes, or about twenty-five per cent. By success was meant the non-appearance of secondary accidents for a period of from four months to four years. A number of objections to the acceptance of reported successful cases of excision were then given.

The author's conclusions were:

First.—That the facts of clinical experience as well as the deductions from analogy and experiment were opposed to the local nature of chancre, upon which the practice of excision was based.

Second.—The practice of excision of chancre as a means of aborting syphilis is condemned by clinical results.

Third.—The sources of error are comprehended under doubtful diagnosis, insufficient observations, and *post hoc* conclusions.

Fourth.—In cases where secondary accidents fail to appear after excision, there is no positive evidence that this immunity is due to the operation.

Fifth.—But there is no evidence that excision of chancre attenuates the syphilitic virus, or modifies the general symptoms.

Sixth.—That it cannot be recommended as a local adjuvant, since it is opposed to the practice of sound, conservative surgery.

DR. EDWARD L. KEYES was called upon by the chair to open the discussion, and in doing so he remarked that he had been very much entertained and instructed by Dr. Morrow's paper, and was glad to be able to express his entire approval of the views therein contained. He did not consider it detrimental to himself to acknowledge that there was very little more to be said upon the subject owing to the great industry that the author had displayed in collecting so large an array of evidence. Syphilis, it seemed to him, was like a beautiful woman, in that it, like her, was *semper varum et mutabile*.

The syphilis with us at the present time was not the syphilis of the fifteenth century. It is mild in consequence of civilization. Syphilis among uncivilized people is as fierce, however, to-day as ever. In support of this statement Dr. Keyes read a letter from a graduate of one of the New York colleges, who is now resident in the Sandwich Islands, in which it was stated that upon the discovery of these Islands in 1779, by Captain Cook, they teemed with population, though the exact number of inhabitants was not known till forty years ago, when it was ascertained that there were 110,000 people. To-day, there are only 40,000 inhabitants.. Before the visit of Captain Cook syphilis was unknown in these Islands, but since that time and up to the present day it has existed very generally, and in a very aggravated form, as the above statistics would seem to indicate. It was thus seen that syphilis, when implanted upon new fresh soil, was a virulent disease. Though syphilis in this city was generally very mild, still there was no safety nor certainty about it, for patients may die from it, or they may reach old age without experiencing any of its disagreeable features. This idea was supported by the fact brought forward by Dr. Morrow, namely, that though a patient may have undoubted syphilis, the case may go on in the mildest way with very little treatment. It was the animus of the great originator of the operation of excision of chancre that first directed the speaker's attention seriously to the subject. Anspitz, in putting his views before the world, thirty or more years ago, failed to recognize the work which had previously been done by others. Again, it was well known that he was a unicist. He paid very little, if any, attention to confrontation. The period of incubation was not noted with care. The only thing he depended upon was the initial sclerosis, and this was decided by the microscope. Now, microscopists did not agree as to the exact appearance of the initial lesion. It had been the speaker's experience that syphilis could be as severe as possible, and that without any hardness of the initial sore. Whether or not the microscope would reveal the evidence of specific virus before hardness had taken place, he did not know. The outcome of all experimentation is that the majority of cases have turned out to be failures. Dr. Keyes had not practised excision in a single case, but had offered to perform the operation of excision in every case where the location of the chancre would justify such a procedure. He had, however, at the same time told the patient that he could not certainly promise any benefit in the way of curing or aborting the disease, and as the patient had not requested the operation to be performed, he had had no experience with it. He thought that the evidence brought forward in Dr. Morrow's paper had settled the question of the worthlessness of the operation, and should strengthen the profession in looking upon it with more disfavor as an unnecessary procedure.

DR. E. B. BRONSON remarked that his personal experience with excision had been very meagre. In a few instances he had excised what he regarded as an initial lesion. These cases were under observation, however, only a short time. The operation was feasible in that it was easily performed, and the wound

healed kindly. So far as he knew in the cases that had come under his observation, there had been no subsequent development of the disease. It seemed to him, however, that the operation was an illogical one, for the syphilitic virus must needs have had time to have passed into the general circulation before the lapse of the time between the exposure of the patient and the appearance of the initial lesion. He had been very much interested in the paper, and heartily concurred in the views therein expressed.

Dr. George H. Fox wished to express his admiration of Dr. Morrow's paper. Although he differed from the author in some minor points, on the whole he agreed with him. He could only recall two cases in which he had performed the operation of excision. In one he circumcised the patient at the same that he excised the chancre. No symptoms of syphilis followed. In another case symptoms of syphilis followed the operation, although they were perhaps somewhat milder than in average cases of syphilis. He was inclined to think that chancre is a local lesion, and for this theoretical reason excision should result favorably. At the same time he was fully aware that clinical facts did not bear out this opinion. Practically the operation failed to accomplish what was hoped for, and hence could not be recommended as a measure of treatment. Dr. Morrow had mentioned the elements of error entering into the statistics which had been collected in favor of the operation. One of these was the impossibility of making a positive diagnosis of chancre in every case. He believed, as Dr. Keyes had remarked, that syphilis was a mild affection. He thought that the general opinion of physicians was not in accordance with this view. They were in the habit of considering the disease as of a virulent nature. He could hardly believe that syphilis as it existed three or four centuries ago was more severe than at the present time. He was inclined to think that the reports then made were very naturally made up of selected cases presenting the more striking features of the disease. We meet with severe cases of syphilis in our hospitals, but as it occurred in private practice it was certainly of a mild character in the majority of cases, for the disease ran its course as a rule without injuring the health of the patient in any appreciable degree, and many cases got well without any treatment whatever, the patients living long lives and dying of old age if not from some other disease.

Dr. F. R. Sturgis begged to supplement the objections brought forward by Dr. Morrow against accepting the statistics in favor of excision. In the cases reported adenitis was not spoken of. Now he believed that adenitis was generally recognized as being pretty sure to come on, if not at the time, at least a short time after the appearance of the chancre. A great many of Anspitz's cases were operated upon after six, eight, ten, or twelve days of incubation. One of the authors quoted in the paper reported only seven out of thirty cases of excision as successes. This seemed to him a very small proportion. In the cases reported by Frenchmen adenitis was always present, and in these cases not a single success has been recorded in support of excision. This was in striking contrast with the reports of German syphilographers, and certainly leads us to believe that there must be some error in the latter statistics. A practical point in considering the statistics of Anspitz which the author of the paper had adduced, was that he was a unicist. In this country very few experiments bearing upon excision had been made. He had only seen four cases where the operation had been performed, one of these was afterwards proven to be a chancroid. In another case, there was no subsequent induration; in all the others secondary induration followed. The absence of induration in any sore excised, must, of course, vitiate the diagnosis. Again, it was well known to those who had any familiarity with this class of cases that there were many instances of pseudo-hardness which might easily be mistaken for chancre.

Dr. Bulkley most heartily concurred with the views expressed in the paper theoretically and practically. His personal experience was limited to one case. In this instance, the chancre was thoroughly excised when the patient was first seen. Subsequently this proved to be one of the worst cases of syphilis that he had ever seen. While not believing in the prevention or abortion of syphilis by excision, there was a point which should be borne in mind in judging of the success of the cases presented in support of the operation. If one or two cases of actual syphilis are proven to have been cured by this means, the theory is in a measure proven. If it is found that by early excision of chancroid, they heal kindly and prevent subsequent destruction of tissue, the operation is of some value. It struck him that there might possibly be some value derived from the excision of all sores.

Dr. R. W. Taylor said that he agreed with most that the author of the paper had said. He would not indulge in any theory, and his remarks would only have to do with hard facts. He agreed with Dr. Keyes in the benignity of syphilis provided we had an otherwise healthy subject, docile patient, and a good doctor. This doctrine he had taught for years. He had gone into the subject of excision of chancre quite fully and without any bias. He had waited to see the result of experimentation. When he wrote the section on venereal disease in connection with his late colleague and friend, Dr. Bumstead, he had excised fifteen chancres and for good reason. Sometimes, the chancre would be found upon the end of the prepuce, and would give rise to phimosis. Two procedures, under these circumstances, were open to the physician. One was to cut away the chancre or to excise it; the other to give mercury internally. The first method removed the sore with a single stroke, the other necessitated the commencement of treatment earlier than was desirable. Under circumstances like these, he considered it conservative surgery to excise the chancre. As early as 1869 he had excised his first chancre, and as above stated, by the time of the publication of his book had operated upon fifteen patients. But the disease came on subsequently. In three or four cases there was some enlargement of the glands. In two cases he was astonished at the length of the period of secondary incubation; namely, seventy-two days in one and seventy-nine or eighty days in the other. This observation was the means of keeping up his interest in the operation. He remembered an old time friend of his, in whom the first period of incubation was sixty days, of which he was satisfied. From that time, after having the chancre excised, it was seventy-two days before the disease made its appearance. The symptoms in this case were mild. The course of the disease, however, in the patient's wife, to whom he had communicated the disease, and who was of a tuberculous disposition, was severe and resulted in her death.

Dr. Taylor recited the history of a case which he thought settled the question. The patient came to him showing a little excoriated papule not larger than the heads of four pins. It was red and slightly elevated. The patient was of a nervous temperament and very anxious about the sore. He stated that twenty days previous he had had connection and that he could submit the woman for examination. On the evening of the same day Dr. Taylor examined this woman, and found at the fourchette a small excoriation and a declining roseola on her body. Dr. Taylor stated the case to his patient, saying that the sore which he had

upon his penis was probably an initial lesion of syphilis which could be determined positively by letting it go on undisturbed. But the patient did not wish to let it go on, and, in accordance with his request, the sore was excised. Previous to the performance of the operation the penis was washed in a watery solution of carbolic acid. The sore was then touched with the pure acid so as to destroy its virus and prevent exudation into adjacent healthy tissues. It was then dusted with calomel, transfixed, and cut away together with an abundance of surrounding healthy tissue. The wound was allowed to heal by granulation, and in the course of ten days had closed nicely. No enlargement of the inguinal glands followed. Dr. Taylor wished, however, to state that he had seen cases of syphilis where the initial lesion was not excised, in which inguinal ganglia had escaped enlargement until a later period in the disease. This man had no enlargement of the inguinal gland, but at the end of forty five days he presented himself at the office, having taken a Russian bath the night previous, with a roseola coming out. As a prophylactic, he considered excision a failure.

DR. OTIS said that it was not his object in rising to speak to criticise the paper nor the experience of those physicians who had thus far spoken, but he wished to give his own experience and the views he entertained upon this subject. It seemed to him that in order to form an opinion of the desirability of excision of the initial lesion, it was necessary to inquire what the initial lesion is. He thought there was sufficient authority to enable us to say that the beginning of syphilis was an infected cell which could not be distinguished in any way from the white-blood corpuscles. We had a right to assume this from the fact that the first condition which we recognize at the point of lesion is a proliferation of cells. That these cells are not the result of an inflammatory aggregation of cells, but that they are the result of proliferation. Sufficient evidence existed to show that syphilis may go on through its entire course without any open lesion of any kind, the only observable condition being a small primary nodule. There must have been, however, an opening for the introduction of the syphilitic virus, but that this healed kindly was just as certain. In 1867, Biesiadecki made a careful microscopical examination of twenty specimens of Hunterian chancre, and found that there was in every case a proliferation of cells. He found the cells aggregated at the point of lesion to such an extent as to interfere with their own nutrition and secondarily the nutrition of the part. The lumen of vessels became packed with cells as well as the lymph spaces, and this packing of cells resulted in the interference with the processes of nutrition to the extent of causing a superficial exfoliation and breaking down of tissue, thus making an open sore. It was further found in examining the lymphatic vessels proceeding from this point, that those vessels were packed with cells and successively so throughout the line of the lymphatic vessels. There was no such general invasion of the patient with infection, as might have been supposed. Twenty, thirty, forty days would elapse from the time of exposure to the appearance of the initial lesion. This process of cell proliferation had gone on until it reached the lymphatic glands and through a period of at least six weeks in the majority of cases before any general evidence of the disease had manifested itself. This first period had been termed the period of incubation. All authorities had found the same condition, namely, the accumulation of cells first at a certain point and afterwards, at the end of a period varying from four to five and six weeks, there has been a general manifestation of syphilis in the shape of roseola eruption. Now, during all this time there has been nothing external or internal to show that the disease was present, and this fact is strong evidence of the local nature of the disease. Now, when we talk about excision of chancre with a view of arresting the disease, we know with what we have to deal. We have a proliferation of cells at a particular point. It depends upon the rapidity with which these contagion-bearing cells are enabled to get away from this point, whether we can prevent the disease from going into the general system. If we can take it early enough, the speaker believed that it was possible to prevent the occurrence of subsequent syphilis by excision. If the glands were involved, we could hardly hope to profit largely by the operation except by excision of the glands. As to affording relief from constitutional infection, this matter must always be a question of circumstances. It must vary in various instances. It might move with great rapidity from the surface through the lymph spaces into the lymph vessels—that is, from the surface towards the glands.

As to the practical results in at least fifteen, perhaps twenty, cases of excision which had been performed by the speaker, he would say that very great benefit has accrued from the operation as a matter of personal convenience in a number of cases. In illustration of this statement, the following case was cited. A patient came into the speaker's office, a number of years ago, with a very large initial lesion of syphilis upon his penis. He said he had been under treatment between two and three months, and that the sore was still increasing. He had just received a telegram to the effect that his wife was about to return home from Europe, and would probably reach him in the course of ten or twelve days. As a means of speedy relief, excision was advised and readily consented to. On the third day after the operation the wound had entirely healed by first intention, and when his wife reached home there was only a small line to indicate the seat of the former sore, which was a source of much satisfaction to the patient. As to the operation destroying much tissue, he wished to state in the first place that such was not the case, for the tissue which was removed was superfluous tissue. Hence the removal of the disease did not cause much, if any, deformity. In a number of cases operated upon he had found some difficulty some months afterwards in determining the exact seat of the former lesion, even in cases where the part excised was as large as the end of his thumb. While he would not claim it very strenuously, it had seemed to him that in the cases he had operated upon, the subsequent manifestations of the disease were milder than usual. This was the impression made upon his mind from his personal experience. He had not observed any tertiary manifestations of the disease in the patients operated upon. While appreciating the possible benefits to be derived from excision of the initial lesion he would never expect to have this take the place of legitimate treatment.

DR. OTIS said that some two years ago he had an opportunity to practise excision of an erroded papule on a worthy member of our profession.. Some months afterwards he came into the office stating that at the time of the excision of the initial lesion he was of the opinion he must have syphilis. He stated that he knew he had syphilis, for he had just seen the young lady with whom he had connection, and she now had a papuli syphili. He was perfectly confident that he did not now have syphilis, and he wanted to claim for the operation of excision the curability of syphilis. He stated that he was now entirely free from syphilis, but that the woman with whom he had had connection before the excision of the sore had syphilis. Dr. Otis, however, was not so easily satisfied and submitted the patient to a thorough examination, the result of which was the recognition of the fact that he had inguinal enlargement on both sides; inspection of the throat

revealed a condition of comparative health, though there was some redness. Upon drawing aside the tongue with the spatula, a mucous patch was disclosed. The patient went under a course of constitutional treatment, which had just now been ended after a period of nearly two years. This case would have been very readily taken as an example of proof of the benefit of excision, had not much care been taken.

As to the non-malignancy of syphilis he was not at all convinced; on the contrary, he thought that in the wards of our hospitals could be found many cases illustrating the great virulence of the disease.

In private practice the mildness of the cases was in consequence of the judicious treatment which they received at the hands of physicians. He thought that the general intelligence of the profession was very excellent regarding the treatment of syphilis.

The discussion was closed by a few remarks by Dr. Morrow.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, October 9, 1882.

THE PRESIDENT, DR. JAMES TYSON, IN THE CHAIR.

MYXOMATOUS TUMOR OF THE POSTERIOR CERVICAL REGION,

presented by DR. NANCREDE, for Dr. W. G. MacConnell.

The tumor was removed by Dr. J. H. Brinton, at the Jefferson College Hospital Clinic, some ten days since. The patient was a little boy aged four years, whose parents had first noticed the growth about two years ago. Latterly, it has grown with considerable rapidity. It was of firm consistence, lobulated, and movable beneath the skin, giving the impression that it was a fibrous tumor. After removal, in addition to the above-mentioned characteristics, it was found surrounded by a capsule, and on section looked somewhat suggestive of myxoma, still it was thought by some to be merely a fatty tumor containing more fibrous tissue than usual.

Microscopic Examination (by Dr. MacConnell).—Upon examining a frozen section stained with iodine, meshes of capillaries are seen displayed, in the walls of which the endothelial cells composing the vessels can be distinctly seen. The aforesaid meshes contain the mucoid structure traversed by large pale fusiform cells, the processes of which anastomose with each other. In addition, many leucocytes are seen, and interspersing the growth in every direction numerous yellow elastic fibres are readily distinguished.

When presenting this specimen Dr. Nancrede commented on the rarity of such growths.

DR. S. W. GROSS said he had himself presented several gelatinous polypi of the nose, a number of years ago, which were most characteristic examples of myxomatous tissue. He could also recall a specimen of subcutaneous myxoma of the forearm, as well as the hæmatoid myxoma of the breast referred to by Dr. Nancrede. He was disposed to consider it the rarest of all neoplasms of the breast; indeed, he had never personally met with one, and when preparing his work on tumors of the breast, he had written to numerous surgeons throughout the country, who all replied that they had never met with one affecting the breast.

DR. FORMAD remarked that he had exhibited a myxomatous fibroma of the labium some years since, and said that the peculiar milky appearance assumed by the fluid, when such growths were thrown into alcohol, was a good diagnostic point.

DR. SHAKESPEARE said that his personal experience as to the rarity coincided with that of Dr. Gross. This specimen is one of the rarest forms, as most of the fibrillæ consist of yellow elastic tissue. The rarity of myxomatous tumors seems to him to have much bearing on the views of Cohnheim and others as to the etiology of tumors. The observers insist that all tumors spring from the remains of fœtal tissues, not made use of in tissue construction, which remain dormant in their embryonal condition until subjected to some irritation, when they develop into the various neoplasms. New tissue, practically identical with that found in myxomata, pervades the fœtus. How then is it that portions of this do not remain to give rise to myxomata? On the contrary, myxomata are among the rarest of the neoplasms.

SPECIMENS FROM A MAN WHO DIED WITH BRAIN, LUNG, HEART, LIVER, SPLEEN, KIDNEY, AND BLADDER LESIONS,

were presented by DR. J. F. T. ESKRIDGE.

The specimens showing the above lesions were removed from the body of a man, aged 68 years. The patient had become deaf in the right ear thirty years before, while suffering from some brain disturbance. Attacks of jaundice, with gradually increasing permanent discoloration of the skin, had extended over a period of ten years. Since the early part of the year 1877 he had complained of incontinence of urine, an oppressed feeling over the hepatic region, dropsy in the feet and face, and a gradual loss of flesh and strength. The two years preceding his death he had been unable to work, but was only confined to bed five days. During the latter period his symptoms were, in the order in which they were developed, great prostration, scanty secretion of urine, blindness for twenty-four hours preceding repeated convulsions, loss of speech, and almost total inability to swallow, although consciousness was preserved until coma ushered in the death scene. His temperature (axillary) did not rise above 100.5°. The surface head temperature nearly equalled that of the axilla. No paralysis of the muscles of the face or extremities preceded death. The liver during life did not appear to be enlarged or altered in its outline.

The *post-mortem examination* revealed in the brain engorgement of the veins, with some effusion, slight pia-mater inflammation in the neighborhood of the fissure of Rolando, apparent degenerative changes in the left island of Reil and anterior portion of the left temporo-sphenoidal lobe; in the pleura and lungs, old and numerous pleuritic adhesions, lobular and vesicular emphysema of the lungs, congestion of both lower lobes, and a nodule (probably cancerous) of the left apex; in the heart, fatty degeneration, dilated right ventricle, and incompetent mitral valves from ossific change; in the liver, multiple cancer without an increase in size or a nodular condition of the organ; in the spleen, marked increase of fibrous tissue and atrophy of the gland to one-half or less its normal size; in the kidneys and ureters, the last stages of pyo-nephrosis, the glandular tissue being nearly all destroyed, the pelves were as large as a good-sized orange, and the ureters dilated so as to admit a man's thumb; in the bladder, great hypertrophy of the mucous membrane and decrease of the capacity of the viscus.

PRIMARY CARCINOMA OF PANCREAS AND LIVER.

Presented by DR. E. T. BRUEN.—The interesting features pertaining to this case are the age of the patient—24 years, and the rapidity of the abnormal processes. These rendered the diagnosis of malignant diseases doubtful until the appearance of nodular tumors in the liver. The family history was free from hereditary disease. The commencement of the disease dated from September 1, 1881; death occurred on the 15th of January, 1882. At first the symptoms related solely to the digestive tract, such as dull and

heavy sensation after eating with acid eructation and occasional vomiting. Subsequently sharp, cramp-like pains in the abdomen were a prominent symptom. After the lapse of a week there commenced general itching, and two week later the skin became yellow. This yellowness and itching never disappeared during the history of the case. At the autopsy the gall-duct was obstructed by the enlarged head of the pancreas, so that extreme dilatation of the gall-bladder had ensued. This was probably the cause of the jaundice and not the liver disease itself. The bowels were regular and the appetite good when first seen. The case then presented evidences of partial obstruction of the gall-duct with digestive disorder, but without the symptoms characteristic of malignant disease of the stomach or bowels. By the middle of December, 1881, the liver dulness extended from the fourth interspace to three inches below the ribs in the upper nipple line; from the ensiform cartilage the line of dulness extended to within one inch of the umbilicus. The hepatic region was tender on pressure, especially over the epigastrium. The patient complained about this time of dull pain over the liver, with griping pain in the abdomen. The pulse was 76 per minute. He had lost four pounds since admission and looked thin. About this time a small inequality was noticed in the surface of the liver three inches above and a little to the inner side of the umbilicus. Tho spleen was enlarged. By January 7th, the bossillation of the liver became distinct and the enlarged gall bladder, rendered irregular by gall-stones, presented a slowly increasing, elastic, tender tumor, situated to the right of the epigastrium and umbilicus. By Januray 12th, the pulse became rapid—130 per minute; the patient rapidly failed and death occurred January 15th.

Autopsy.—The pancreas was enlarged to double its size, the growth chiefly occupying its head and compressing the common bile-duct. Microscopic examination showed it to be scirrhous carcinoma. The liver was thickly studded with nodules of medullary carcinoma, explaining the *ante-mortem* bossillated feel of the organ. The gall-bladder was distended to twice its normal size and contained a number of gall-stones.

Remarks.—The duodenal end of the organ, as is usual, was the seat of the disease. In a paper on 39 cases of primary carcinoma of the pancreas in St. Bartholomew's Hospital Report for 1881, jaundice is stated to be always present, while in 24 cases of secondary carcinoma this symptom was noted in but seven cases. This is presumably from the secondary growth occurring in some other portion of the organ than its head. Murchison says that the characteristic symptoms of carcinoma of the pancreas are, pain in the pancreatic region, sensible tumors, and persistent jaundice. To these Dr. Bruen would add, intestinal dyspepsia, which differs in some essential features from the dyspepsia of organic disease of the stomach.

DR. MUSSER remarked that he could vouch for there being a distinct tumor of the pancreas, as he was present at the autopsy. The case had been under his observation in the dispensary one month prior to admission to the hospital. On account of the age he was puzzled as to an exact diagnosis, although confident that the cause of the jaundice was obstruction. He noted among other symptoms the intense itching of the skin, a point of importance, Sims says, in the diagnosis of obstructive jaundice from that due to suppression. Of five cases of tumor of the pancreas he had lately seen, all were accompanied by jaundice.

DR. BRUEN called attention to the uncertainty of bossillation as a symptom of malignant disease of the liver. He had presented to this Society only two weeks since a liver exemplifying this condition in a marked degree, where nothing beyond cirrhosis in the stage of enlargement existed. The occurrence of carcinoma of the liver at so early an age is unusual, although Dr. Pepper had shown a specimen of the disease to this Society some years ago, occurring in an infant.

The PRESIDENT said that there were two points in this case of great interest to him: firstly, jaundice in carcinoma of the pancreas, while it is a frequent symptom, it is by no means an invariable symptom. Seven years ago he presented to this Society the specimens from a case of primary pancreatic carcinoma, where no jaundice had been present, and six months ago he presented to the Society a specimen of enlargement of the head of the pancreas from a patient who also presented no symptoms of jaundice. Secondly, as to the diagnosis from cancer of the stomach, he had noted in his experience, as was mentioned in the history of Dr. Bruen's case, the absence of gastric symptoms. This negative symptom is of importance, since the tumor is often detected in precisely the same spot in both these diseases. The absence of gastric symptoms with intestinal indigestion, irrespective of fatty diarrhœa, he considered the most reliable diagnostic points between carcinoma of the pancreas and stomach.

SPINDLE-CELLED SARCOMA OF THE SMALL INTESTINE,

presented by DR. W. A. EDWARDS.

On September 23, 1882, I was asked to assist Dr. W. F. Atlee in the removal of an abdominal tumor. The patient, æt. 48 years, whose menstruation had ceased at 31 years, first noticed the swelling in April last. On the day of operation she measured thirty-eight inches around the abdomen. The usual incision was made, and the tumor reached, when its surface was seen to be of a dark purple hue, with a network layer of veins, ramifying in every part of its serous covering. A trocar and canula were introduced, but nothing but blood followed the withdrawal of the trocar. The sac was then torn open, and its contents of a soft brain-like consistence were emptied out. The growth was now turned out of the abdominal cavity. There was no distinct pedicle, but an attachment to the intestine of about the size of a half dollar was seen. Dr. Atlee says, "when I emptied the sac of its soft contents I examined carefully, with *extreme care*, the part fastened to the intestine, and my fingers passed into the intestinal tube." A silk cord was tied around the attached portion, and the remainder of the growth removed. The omentum was attached to the growth for a space of two inches; this was ligated and cut away, and the abdominal wound was closed, etc. Death occurred on September 25, at 4 A.M.

This growth sprang primarily from the submucous tissue of the small intestine, and grew with great rapidity as the patient was only aware of its presence last April, and by September she measured, as above stated, thirty-eight inches. *Microscopical* examination of preparations, taken from several portions of the growth, clearly show it to be a spindle-celled sarcoma, and a most typical one at that. The small intestine is an unusual site for this neoplasm. As far as I am able to ascertain there is no recorded instance of its occurrence in this situation. My friend, Dr. Formad, to whom I have shown the growth, concurs with me in this statement. On the day of operation I noted, as well as I could, the absence of all secondary deposits. The surrounding intestines and peritoneum were apparently normal, not even unduly hyperæmic.

No post-mortem was permitted.

CHRONIC PARENCHYMATOUS NEPHRITIS COMPLICATING PHTHISIS PULMONALIS,

presented by DR. JAS. TYSON.

My object is showing these kidneys is to illustrate the morbid anatomy of the renal complications which

so frequently attends the later stages of phthisis pulmonalis. It is very well understood that when œdema of the feet and legs presents itself in cases of consumption the end is not far distant; but the renal complication which is at the bottom of such œdema is often overlooked. It is of course not impossible that there should be œdema in the last stages of phthisis, from simple alteration in the composition of the blood—a watery state of it—but in the majority of instances it means that the kidneys have become involved. As to the form of disease affecting the kidneys, it is acknowledged that it may be either lardaceous disease or chronic parenchymatous nephritis, but I think the impression prevails, it was at least my own until recently, that the amyloid kidney is the most frequent complication. I believe, however, that the chronic parenchymatous nephritis is more common, and it becomes a matter of interest, if not of importance, to be able to diagnose between these two conditions. It is well known that the microscopic and clinical characters of the urine in these two forms of kidney disease are often identical, so that no assistance is afforded by a study of the urine. The history of the case, of course, leads to neither particular form, but suggests both. One criterion only can I recall to aid us, and that is the presence of enlarged liver. So commonly associated is the enlarged amyloid liver with amyloid kidney, that the absence of it almost necessarily precludes the presence of amyloid kidney. At least I am sure we would err less frequently if we were to consider all cases of renal disease attending consumption unattended by enlarged liver to be parenchymatous nephritis rather than lardaceous disease. It is true we often have enlarged fatty liver in consumption, but the degree of enlargement never reaches that of amyloid liver, and hereafter I shall be inclined to consider all cases of renal disease complicating consumption to be parenchymatous nephritis unless they are associated with enlarged liver, when I shall conclude that they are instances of amyloid disease.

Dr. Bruen considered that the passage of large quantities of urine, and the history of specific disease or of prolonged suppuration preceding the kidney trouble would warrant a diagnosis of amyloid renal disease.

DR. MUSSER would ask whether the heart was hypertrophied, and what was Dr. Tyson's experience regarding hypertrophy of that organ in cases of amyloid disease and of chronic tubal inflammation of the kidneys. If not too late, he would like to call attention to the absence of cardiac hypertrophy with an infinite degree of obstruction in the renal circulation in the case Dr. Eskridge had presented. This is in direct opposition to the view held by some that the hypertrophy of the heart is a sequence of the renal obstruction in chronic interstitial nephritis.

DR. TYSON replied, that in this particular instance he did not see the heart and could not tell whether it was hypertrophied or not. The same law holds good for amyloid kidney, as for chronic nephritis; if the case last long enough, hypertrophy is sure to be found sooner or later.

ECCHYMOSES OF THE MUCOUS MEMBRANE OF THE STOMACH,

presented by DR. J. M. BARTON.

The history of the case was that of chronic lung trouble. The stomach upon being opened presented an irregularly shaped extravasation of blood about two-thirds of an inch in diameter. The mucous membrane covering the effusion was healthy, as it was in the rest of its extent.

DR. TYSON remarked that these effusions are not uncommon, but he has never seen them except in their pin-point form.

DR. ROBERTS asked if there had been violent vomiting recently.

DR. BARTON replied that nothing of this sort had been observed for some months prior to death.

CORRESPONDENCE.

SEWER-TRAPS.

To the Editor of THE MEDICAL NEWS.

SIR: In reply to your late strictures upon my paper entitled, "Why Sewer-traps are Unreliable," etc., I hope you will permit me to explain briefly: 1. That when speaking of traps emptying by evaporation, siphonage, etc., I was not so stupid as to deny such occurrences, but only sufficiently so to dispute their importance, if, as I believe, new depots for the reproduction of disease germs frequently form inside these boasted safeguards. 2. That, although reporting observations on three traps only, I too often quote to students the aphorism that "no one fact, and, indeed, no ten facts, prove anything in medicine," to fall into the error of limited experiment you impute to me. Before my paper was published, I learned from practical plumbers that a slimy lining, such as I described, is a common and troublesome intruder into ball, S, and D traps, and the usual denizen of sewers. 3. Your statement that the vegetable growth I examined was entirely different from that which characterizes the development of those microzymes which are capable of causing disease, because it consisted of creeping threads, "whereas the germs which we know anything about are minute particles or single cells," could only have proceeded from a want of personal acquaintance with the subject, since it is notorious (among microscopists) that the diseases of *Favus* and *Herpes circinatus* are caused by spores and mycelia (creeping threads) of the achorion and microsporon *intruding* among the epithelial cells of the hair and skin. Finally, it seems to me that your assertion, "The gases of sewers do not cause any specific disease," is *very bad for the facts* I have quoted from Thursfield, Keating, Chamberlin, and Wilson, and which are recorded by a host of medical and sanitary authorities.

Very respectfully yours,

JOS. G. RICHARDSON.

3238 CHESTNUT ST., PHILADELPHIA, Nov. 16, 1882.

[The fact that Dr. Richardson found a fungous growth in a ball trap proves nothing with regard to an S trap, which is the trap commonly used and recommended. The production of *specific* diseases by sewers is not due to the gases but to particulate germs. The essential point is, has Dr. Richardson presented any evidence that a fungoid growth has ever been known to creep from a soil-pipe through an S trap to the house side? It is our opinion that he has not and that there is no foundation for his sweeping generalization that the theories held by most, if not all, sanitarians and sanitary engineers may be relinquished.—ED.]

NEWS ITEMS.

BROOKLYN.

(*From Our Special Correspondent.*)

THE MEDICAL SOCIETY OF THE COUNTY OF KING'S AND THE NEW YORK CODE.—At the stated monthly meeting of the King's County Medical Society held last Tuesday evening, the special order of business was the consideration of Dr. Squibb's resolutions offered at the preceding meeting (see THE MEDICAL NEWS for November 4, page 530). The meeting was very largely

attended, and the resolutions of Dr. Squibb were adopted on a vote taken by ballot. The effect of the vote is to instruct the County Society's delegates to the State Society to vote in the interest of the old Code.

PROGRESS OF THE YELLOW FEVER.—Official yellow fever reports have been received at the office of the Surgeon-General U. S. Marine Hospital Service to include the 10th of November, showing that only six cases and one death have occurred at *Brownsville* since the last weekly report. This makes a total of 2006 cases and 15 deaths since the disease appeared at that place. One case appeared at Point Isabel, Texas, on the 4th inst. The weather is reported hot and calm.

The *Cordon Sanitaire* thirty miles above Brownsville, known as the "Arroyo Cordon," was removed on the 10th inst.; but the river guards in Hidalgo and Starr Counties bordering the Rio Grande are continued, owing to the prevalence of the disease in Mexican towns confronting those counties. Dispatches state that people returning to Mier and Camargo, in Mexico, are falling victims to the disease, 11 deaths at the former and 7 deaths at the latter place having occurred on the 2d and 3d of November.

The yellow fever epidemic in *Pensacola, Florida*, is happily at an end, although no official announcement to that effect has been made. During the past week ending November 20th, two telegraphic reports have been received at the office of the National Board of Health, one on the 14th stating that no new cases had been reported during the previous twenty-four hours, and the second on the 16th reporting 5 sporadic cases, but no deaths. Since then many suppose that there have been no new cases to report, else force of habit would have led the Secretary of the Pensacola Board to his telegraph book. The report on the 16th stated that there had been a frost during the three preceding nights.

DIPHTHERIA IN PHILADELPHIA.—The continued prevalence of diphtheria in Philadelphia has been the cause of considerable comment. Since 1876 the disease has not been so fatal as it is at the present time. In the former year there were 708 deaths from this disease; in the present year the records show that there have been 730 deaths up to November 18th, which number is already in excess of that of any previous year.

The mortality for the preceding eleven years was as follows:

1871, . .	145 deaths.	1877, . .	458 deaths.
1872, . .	150 "	1878, . .	464 "
1873, . .	110 "	1879, . .	321 "
1874, . .	179 "	1880, . .	323 "
1875, . .	652 "	1881, . .	457 "
1876, . .	708 "	1882(Nov.18),	730 "

For many years previous to 1875 the mortality from diphtheria was comparatively light, it never having exceeded 200 deaths in any one year. Going back to 1861, we find the deaths amounted to 502, which indicates a mortality relatively about as great as that of the present year. In 1875 there was a marked increase in the deaths from this cause, the number having been only twice exceeded in the past decade, namely, in 1876 and in 1882. Since 1876 there has been a gradual falling off in the annual number of deaths until 1881, when an increase again occurred, which has been particularly marked the present year.

The deaths by quarterly periods in 1882 have been as follows: 1st quarter, 174; 2d quarter, 163; 3d quarter, 215; from October 1st to November 18th, 178.

The disease has been more especially prevalent since the latter part of August. Since the week ending August 26th, the average weekly number of deaths has been about 23. In September there were 108 deaths; in October, 84; and in the first three weeks of November, 94. The total mortality for November will in all probability exceed that of any previous month.

It has been stated that the frequent and prolonged exposure of the people during the Bi-Centennial Celebration, held during the week ending October 21st, by acting as a predisposing cause, accounts for the present increase of the disease. While this may be to some extent true, it fails to explain the much greater mortality which occurred in the month of September.

The disease does not seem to depend on localized causes, for, while it is more prevalent in Frankford, and in wards in the northeastern part of the city, deaths are reported from many widely separated localities. It is almost entirely confined to children, the period between two and five years furnishing the greatest mortality. As a rule, this disease is most prominent in the first and last months of the year, and its increased prevalence at the present time, therefore, is no exception. Compared with other large cities, the mortality in Philadelphia is not excessive, New York having reported as many as forty-four deaths in one week during the present year.

TYPHOID FEVER IN PROVIDENCE, R. I.—In a communication to the Board of Aldermen, on November 16, the Superintendent of Health, Dr. Edwin M. Snow, makes a statement of the facts as known to him concerning the present outbreak of typhoid fever in the city, with the view of correcting the false and exaggerated rumors which are prevalent, and causing increasing alarm and uneasiness among the people.

During October the mortality returns did not show any unusual prevalence of the fever, as only eight deaths occurred from this cause during the month, or two less than during the preceding month. But four or five days before the end of October a sudden outbreak of the disease was observed in all parts of the city, as well as in neighboring towns, as East Providence and Seekonk, Mass., and the disease is still progressing. Dr. Snow has entire confidence in the purity of the Patuxet water, which forms the main supply of the city, and points in support of this opinion to the fact that the fever is more prevalent in proportion to population in East Providence and Seekonk than in Providence.

During the week ending November 4, 51 cases were reported, in the following week 163 cases, and during the four days to noon of November 16, 68 cases, making a total of 282 cases.

Dr. Snow thinks it probable that all the cases have not been reported, but is inclined to believe that the whole number does not exceed 400.

Of the whole number of cases, the comparative severity was reported as follows:

Mild, . . .	70 cases, or 24.8 per cent.
Average, . .	126 cases, or 44.7 per cent.
Severe, . .	36 cases, or 30.5 per cent.

None were reported malignant.

SCARLET FEVER IN COLUMBUS, O.—Dr. Doren, the Superintendent of the Institution for the Feeble-Minded in Columbus, makes the following statement to a *New York Herald* reporter about the spread of scarlet fever in the Institution: "Since the 10th inst., we have had fifty-eight cases. Three have died. One was very low this morning. The general character of the disease is mild, but it may extend to all the inmates who are liable to take it, as the Institution is crowded in consequence of the destruction of one of our buildings by fire on November 18, 1881. There is a new building nearing completion."

The Typhoid Epidemic at Paris.—The rapid extension of the epidemic of typhoid fever in Paris is exciting considerable consternation, and well may do so. The mortality has increased fivefold in the course of three weeks; from 57 in one week to 134 in the next, and 250 in the third. The number of admissions into hospital has exhibited a corresponding increase, being 213 in the first, 536 in the second, 1001 in the third, while on October 19th, the various hospitals contained no less than 2136 cases. Since then a slight fall in the number of fresh cases has occurred, which, it is hoped, indicates the commencing decline in the epidemic. The epidemic is most severe in the northern quarters of Paris, the mortality at La Villette being five times as high as at Montrouge. Of 250 deaths in the last week, 42 were between the ages of five and fifteen, and 167 were between fifteen and twenty-five. It is conjectured that the extension of the disease may be connected with the return to Paris of many families, especially students and others, who have, during a holiday spent in the country, lost some of their acclimatization; but, on the other hand, it must be remembered that the present season of the year is that in which typhoid most frequently assumes an epidemic form. The circumstances of the outbreak, however, unquestionably deserve the most careful study, since its extent threatens to render it one of terrible proportions. It is remarkable as occurring in a season of much and persistent rain, in which the chance of the contamination of drinking-water is usually regarded as small.—*Lancet*, November 4, 1882.

Quarantine Quarrels.—A difference of opinion as to the propriety of discontinuing quarantine regulations on November 1st, has given rise to a warm correspondence between the health authorities of Louisiana and Texas. The State Board of Health of Louisiana having ordered quarantine regulations to be suspended on that date, the health officer of Texas announced in a letter to Dr. Joseph Jones, President of the Louisiana Board, that the presence of yellow fever in Cuba, Pensacola, and along the western border of the State, had caused the governor to extend the quarantine until cold weather, and that as it would be useless for Texas to maintain a quarantine against infected places if New Orleans was open to them, the regulations would be enforced against that city if its quarantine was raised on November 1st, as suggested.

Mr. A. Pearce Gould has just been elected Assistant Surgeon to Middlesex Hospital, London. Mr. Gould is favorably known in this country as the author of numerous contributions to surgical literature, the latest and most noteworthy of which is the elaborate paper read before the late International Medical Congress, on the rapid method of cure of external aneurism by means of the elastic bandage, with a table of 72 cases.

University of Aberdeen.—Dr. Alex. Ogston has been appointed to the Chair of Surgery in Aberdeen University.

Berlin Gynecological Clinic.—The new Berlin Gynecological Clinic was opened on October 18th. The occasion was celebrated by the presentation of an album containing the photographs of all the earlier directors and assistants.

The Illness of Sir Thomas Watson.—The *British Medical Journal* gives the following account, by Mr. John Walters, physician in attendance, of the illness of Sir Thomas Watson, which will be read with a sad interest by his many admirers on this side of the Atlantic:

Sir T. Watson, now in his ninety-first year, had returned a few weeks ago from the seaside, and was staying with his son at Reigate Lodge, previously to returning to London for the winter, and was in the enjoyment of his usual good health. On Sunday afternoon (October 22d), after rising from his chair, he found he was unable to stand, and, inclining to the left, would have fallen if he had not received support from those at hand; subsequently, in trying to write a letter, he could not remember how to spell the simplest words.

On visiting him two hours after, I found him perfectly rational and collected. He said he could not explain his symptoms; he felt perfectly well, but could not stand without help; when he tried to do so, he fell over to the left side. The pupils were somewhat contracted, equal, and answered to the stimulus of light. Pulse 78, regular; arteries somewhat rigid and tortuous; heart-sounds very feeble, with a metallic ring over the aortic valves; extremities rather cold. There was no apparent paralysis, but the face was slightly flattened on the left side, and the tongue inclined somewhat to the left. He was able to walk up-stairs to bed with assistance. The urine was found afterwards to be alkaline, but contained no albumen. The temperature was subnormal. He passed a fair night. On the 25th he was seen by Dr. G. Johnson with me. His condition was much the same as when first seen, and he was able to take a fair amount of nourishment and some stimulant. On the 26th, after slight exertion, an alarming attack of dyspnœa came on, with coldness and lividity of the extremities. This passed off after the administration of some stimulant, and he walked to his bed-room with assistance.

On the 27th he took but little nourishment, and was much exhausted; he became drowsy towards evening, and his tongue dry and parched. As his condition seemed alarming, Dr. Greenhow was asked to see him with me. The next morning we found his condition much improved; the temperature normal: tongue moist, but coated with a white fur; the pulse 84, and regular. He had taken light nourishment, and slept for some hours; he was perfectly sensible, and had no further paralytic symptoms. Since this his condition has varied but little; and, on being visited by Dr. Johnson again on the 28th, he found him in just the same state as he was on the 27th. During the last few days, the pulse has gone down to about 60, regular, of fair quality; he has no obvious paralysis; the face and tongue remain as when first seized, except that the flattening of the left side of the face is more marked. The urine has become acid, and now contains a trace of albumen. The breathing is at times irregular when asleep, approaching the condition known as "Cheyne-Stokes'" respiration; the bowels have acted several times without assistance; and the urine is voided naturally. He only takes the lightest kind of nourishment, dozes a good deal, and usually sleeps several hours during the night. He has not been able to leave his bed since the attack on October 26th; he is easily roused if dozing, and his mind remains quite clear.

The opinion we have formed is that there is thrombosis of some of the smaller cerebral arteries on the right side (probably supplying the region of the parieto-occipital fissure). The prognosis is naturally grave.

Health in Michigan.—Reports to the State Board of Health, for the week ending Nov. 11, 1882, indicate that puerperal fever, bronchitis, tonsillitis, cholera morbus, membranous croup, dysentery, and rheumatism, increased, and that erysipelas, typhoid fever, and typho-malarial fever, have decreased in area of prevalence.

Reports from sanitary inspectors, during the week

ending Nov. 11, mention three cases of measles found among immigrants arriving at Detroit.

Including reports by regular observers, and by others, diphtheria was reported present during the week ending Nov. 11, and since, at 25 places, scarlet fever at 19 places, measles at 4 places. Smallpox was reported at Grand Rapids Nov. 11.

OBITUARY RECORD.—Died, on November 20, in the forty-sixth year of his age, HENRY DRAPER, M.D., late Professor of Chemistry in the University of the City of New York.

Professor Henry Draper was a son of the late Dr. John William Draper, the eminent chemist and philosophical writer. He was born in Prince Edward County, Va., March 7, 1837. He graduated in the medical department of the University of New York in 1858, and in 1860 became Professor of Physiology and Analytical Chemistry there. Dr. Draper remained at his post in the Medical School until 1873, when he resigned the office, retaining, however, active relations with the Academic Department until last September. Together with the study of physiology he taught analytical chemistry for several years, taking the students after they had been two years in his father's class, where they had been carefully instructed in the elements of the science. After the death of his father, he was elected to fill his chair.

He published a "Text-Book of Chemistry" in 1864, and has been a frequent contributor to scientific periodicals, principally on astronomical, electrical, and photographic subjects. He has been most eminent as an astronomer. By means of a magnificent telescope at Hastings-on-the-Hudson—the grinding of the 28-inch object-glass of which occupied all his spare time for three years—and special spectroscopic and photographic apparatus of his own devising, Dr. Draper has been enabled to perform an extraordinary feat in spectroscopy—that of photographing a very large space of invisible lines in the ultra violet portion of the spectrum beyond the line H. He subsequently reproduced this appendage to the spectrum by the albertype process and published a pamphlet in regard to this very interesting subject, in which he gave the wave-lengths of all the principal lines. The pamphlet has attracted a great deal of attention among scientists in this country and in Europe, and it is considered one of the most remarkable contributions to the new and wonderful science of spectroscopy. He took an important part in the observation of the transit of Venus in 1874, and of the great solar eclipse of 1878.

The discovery of oxygen in the sun in 1877 was Professor Draper's greatest work. He published a paper on the subject, and had the photograph which he made of the oxygen line in the solar spectrum lithographed. His paper was translated and published in the German and French journals. The discovery met with much opposition abroad, and Professor Draper went over and explained the matter more fully. After he had convinced scientific men in London and Paris that his conclusions were based not on mere opinion, but on exhaustive experiments, he was received with great enthusiasm by them and his new theory of the solar spectrum was acknowledged to be the true one. He used in making this now famous discovery a Rutherfurd reflection grating of 17,296 lines to the inch. Mr. Lockyer suggested the use of such an instrument in observing a solar eclipse, but had been anticipated by Professor Draper, who had, several months before Mr. Lockyer's paper was presented to the Royal Society, constructed his phototelespectroscope.

The commissioners appointed by Congress to observe the transit of Venus on December 9, 1874, selected Professor Draper as the Superintendent of its Photographic Department. In this capacity he had such marked success that a gold medal was struck for him at the Philadelphia Mint, by order of Congress. The medal bears the following inscription in Latin: "He adds lustre to ancestral glory."

The cause of his death was pleurisy, and his illness was very brief, for as late as the Wednesday evening of last week he entertained the members of the National Academy of Sciences, over fifty in number, at a dinner given at his house. He had felt slightly unwell in the evening, and at the table those near him observed before the dinner was over that he was in pain. He made light of it, however, and said that a hot bath would soon bring him out all right again. But it did not, and shortly after midnight a physician was summoned. Acute pains in his chest continued with increasing severity until he died, on Monday morning at ten minutes before 4 o'clock. His sufferings were very great, and much of the time he was kept under the influence of morphia on account of the excruciating pain. He realized that he might die from the attack early, but he did not entirely give up hope of recovery until Sunday night, when he said to Dr. Metcalf, his physician: "Well, I've fought bravely, but they've got the best of me. I must go." Shortly after this he died. It is believed by his physicians that he brought back the seeds of the disease in a bad cold contracted on his last visit to the Rocky Mountains and that the state of his system was such as to make the end almost certain from the beginning.

—— DR. DANIEL W. CULYER, a prominent practitioner of Jersey City, dropped dead while hunting near Deckertown, N. J., on November 15th. The cause is supposed to have been cardiac disease.

—— On Nov. 1st, GEORGE CRITCHETT, F.R.C.S., in the 66th year of his age. Mr. Critchett commenced early in his career to devote especial attention to ophthalmology and enjoyed a wide reputation as a successful and skilful operator. He introduced several new methods into practice, and was the author of numerous valuable contributions to ophthalmological literature.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 13 TO NOVEMBER 20, 1882.

MOORE, JOHN, *Surgeon.*—The leave of absence granted by S. O. 145, C. S. Department of Colorado, extended one month.—*S. O. 175, par. 2, Military Division of the Pacific, November* 3, 1882.

WILLIAMS, JOHN W., *Major and Surgeon.*—Assigned to duty at Fort Coeur d'Alêne, Idaho.—*S. O. 161, par. 3, Department of the Columbia, October* 26, 1882.

GARDNER, EDWIN F., *Captain and Assistant Surgeon.*—Ordered to Fort Walla Walla for duty.—*S. O. 161, par. 3, Department of the Columbia, October* 26, 1882.

REED, WALTER, *Captain and Assistant Surgeon.*—Relieved from duty in the Department of the East, and assigned to duty in the Department of the Platte.—*S. O. 266, par. 4, A. G. O. November* 14, 1882.

OWEN, WM. O., JR., *First Lieutenant and Assistant Surgeon.*—To proceed to Astoria, Oregon, and report to First Lieutenant E. B. Rheem, Twenty-first Infantry, for duty with his command.—*S. O. 164, par. 5, Department of the Columbia; October* 30, 1882.

WYETH, M. C., *First Lieutenant and Assistant Surgeon.*—To report to Fort Snelling, Minn., for temporary duty.—*S. O. 185, par. 3, Department of Dakota, November* 9, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

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ORIGINAL LECTURES.

TYPHOID FEVER.

A clinical lecture delivered at the Charity Hospital, New Orleans.

BY S. M. BEMISS, M.D.,

PROFESSOR OF THEORY AND PRACTICE OF MEDICINE AND CLINICAL MEDICINE, UNIVERSITY OF LOUISIANA.

(Reported by J. H. BEMISS, M.D., from clinical notes by DR. T. D. FITCH.)

GENTLEMEN: I desire to call your attention in this lecture to two cases of typhoid fever, the clinical careers of which you have recently had an opportunity to witness. Typhoid fever is not a very common disease in this city; and as rich as this great hospital is in furnishing examples of all forms of disease that the physician is called upon to treat, it has been very seldom indeed that I have been enabled to exhibit two cases of typhoid fever under treatment at the same time. I must further state that when such occasions do occur, they are generally brought about by the simultaneous arrival in this city of the subjects of the disease, coming from localities where typhoid fever is more an endemic affection than it is here.

Typhoid fever is, as most of you are aware, one of those affections that we classify as filth-diseases. This term may be regarded as especially applicable to typhoid fever, since it is well understood that the specific cause which produces the disease may be conveyed to the systems of the well by the fecal matter of those sick with the malady. Again, it is also well understood that this specific poison is rendered more intense in its toxic effects by combinations with extraneous filth. Thus in a two-fold sense it may be called a filth-disease.

This special poison which produces typhoid fever is conveyed into the system by means of substances taken into the stomach; for example, water and milk; and under some circumstances may be rendered capable of being air-borne and be brought into the human system by way of the respiratory apparatus, or by effecting lodgement upon the mucous membrane of the mouth or pharynx. The best accepted doctrine is, that in becoming an air-borne agent, so as to transmit the disease through this medium, the stools containing the poison must become desiccated and distributed through the atmosphere in the form of dust. New Orleans is not so circumstanced as to favor either of these methods of distributing the typhoid fever poison. We obtain our drinking water from wooden cisterns filled by rain-water falling upon the roofs of houses. This method of obtaining drinking water cuts off all danger of spread of typhoid fever through those means by which it is so commonly diffused in localities where the drinking water is obtained from wells or natural fountains. In those localities, the stools of persons sick with typhoid fever may find their way through surface or sub-soil water to those sources of water supply to which the inhabitants are confined. Here, on the contrary, if the filth which contains the poison should render our water impure, it can only do so by first becoming desiccated and then finding lodgement in the shape of dust on the roofs of our houses and being washed by rains into our cisterns. This explains, and in so far as I know, it is the only adequate explanation of the fact, that New Orleans has never experienced an epidemic of typhoid fever. We must, however, deplore the fact that no similar statement can be correctly affirmed in respect to the greater number of the cities and towns located in the Mississippi valley. It is well to call your attention in this connection to the entire disregard of all sanitary precepts and sanitary experience, which is observable in the location and construction of both our towns and family residences. We generally find them located near a natural fountain of water which is usually situated in a depression of the earth's surface. As a general rule, privies are not provided with boxes, nor even with pits, and the consequence is that with every shower the fecal deposits are washed along the surface and find their way into the drinking water of the people.

I will, therefore, without further digression, call your attention pointedly to the histories and clinical phenomena of the two cases referred to. In the course of rehearsal of these symptoms and histories, or at the close, I will introduce such comments as seem apposite.

The first of these patients, in the order of their admission to the Hospital, was James Sentenn, aged 16 years, a native of New York. He was admitted to Ward 18, bed 254, November 29, 1881. He had just reached New Orleans on the day of his admission, having made the voyage from St. Louis in a flat-boat. He states that he had been sick about a week before reaching the city.

November 30.—I saw the patient for the first time on the morning of November 30. The house-surgeon had given on the evening of the 29th ℥j of the liquor cinchonidia of the hospital, which contains grs. v of sulphate of cinchonidia dissolved by means of dilute sulphuric acid. I prescribed on this visit ℥ss of the same, to be given in ℥j doses every four hours; also directed that bitartrate of potassium should be given in ℥j doses every three hours, in lemonade. Epistaxis had occurred just prior to my visit, and there was evident tendency to diarrhœa.

December 1.—Patient complained of abdominal pain; had again had epistaxis; skin dry, cheeks flushed. Ordered

℞.—Neutral mixture, ... ℥iiiss.
Tinct. digitalis,
Syrup morphia, ... āā ℥ij.
M. et. ft. sol. Sig. Tablespoonful every two hours.

Also a diet of beef tea alternated with roast apple and boiled milk.

2d.—Epistaxis had again occurred; abdominal pain still troublesome. Ordered

℞.—Neutral mixture, ... ℥iij.
Tinct. hyoscyamus,
Tinct. digitalis,
Syrup morphia,
Syrup ipecac, ... āā ℥ij.
M. et. ft. sol. Sig. Tablespoonful every four hours.

Diet of milk and beef tea.

Student reported that at evening visit the patient was delirious, and had had about fifteen liquid stools of a yellowish color.

3d.—Epistaxis again, and continuance of abdominal pain. Bowels still loose; stools pea-soup in character. Treatment continued.

4th.—Patient delirious all night. Epistaxis, and, when rational, persistent complaint of pain in abdomen. Treatment continued.

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5th.—Bowels still loose; stools pea-soup in character; no epistaxis; still complains of pain in abdomen; distinctly marked rose-colored spots on abdomen; tongue brown, dry, and cracked. Thermometer could not be placed in mouth because of delirium. Ordered

℞.—Sulphuric acid dil., ... ℥j.
Tinct. cinchona co., ... ℥vij.
Syrup morphia, ... ℥iv.
M. et. ft. sol. Sig. Teaspoonful every four hours.

Bowels still loose. Ordered that chloral hydrate ℈j be given at night in case of insomnia.

6th.—Large number of rose spots have appeared this morning; tongue coated brown; abdomen tympanitic. Had taken the chloral hydrate as directed, and several hours of good sleep ensued. Treatment continued.

7th.—Student reported that at his last visit on the previous evening, the patient was found in a semi-comatose state; eyes partly closed; mouth open, breathing stertorously; some new rose-colored spots; only one stool during the day; tongue dry, brown, and cracked on each side; had not passed urine during the day; urine drawn off with a catheter; patient so nearly unconscious he scarcely noticed its introduction. Patient was found this morning in a state of coma-vigil; abdomen tympanitic; tongue brown, cracked, and red at tips and edges; also sudamina present. Had taken chloral hydrate grs. xx per rectum; bladder was emptied by means of catheter. Treatment continued. Concentrated animal nourishment in fluid form was pressed upon the patient by mouth and rectum.

8th.—Mr. Fitch reports that at his last visit the evening previous the patient had had one stool only during the day, somewhat moulded in character, and had passed a little urine at the same time. Subcrepitant and sonorous râles over base of posterior parts of both lungs, with expectoration of yellowish sputa. Patient had taken chloral hydrate grs. xx, per rectum, succeeded by several hours of tolerably comfortable sleep; had one stool in night, one in morning, somewhat moulded and clay-colored; has passed sufficient quantity of urine; tongue brown, dry, and cracked. Patient took oatmeal and boiled milk and some wine. Medicines continued.

9th.—Student reports three stools during the previous day, somewhat moulded and clay-colored. Had taken as nourishment oatmeal and chicken-broth. Was found to have rested badly during the night, although chloral hydrate had been given as usual. Had one liquid stool during the night. More disposition to eat.

10th.—Patient had had six stools during the latter part of previous day; appetite not so good; tongue still coated brown; had rested pretty well during the night without any hypnotic.

11th.—Had been delirious all night; tongue brown-coated; teeth covered with sordes; one loose stool. Ordered, Dover's powder, grs. x, at night; diet of wine, milk and crackers, and chicken-broth.

12th.—Had had three stools during latter part of the day before, moulded and darker in color. Slightly delirious this morning; tongue brown-coated; abdomen not so swollen and tympanitic; disposed to eat. Ordered repetition of Dover's powder at night. More rational.

13th.—Bowels not moved since yesterday morning; rose spots gone; somewhat delirious last night. Took Dover's powder as directed.

14th.—Had had two stools; restless and somewhat delirious at night; picking at bed-clothes. Bed-sore over the sacrum. Tongue somewhat moist and shows a disposition to clean. Medicines continued.

From this time on, convalescence progressed without interruption until on December 21st, and about the thirtieth of his disease, he was discharged from further treatment. He was, however, kept in the hospital under observation until sufficiently strong to admit of his discharge.

The second case was that of Frank Boyer, aged 18 years, native of Ohio, who was admitted to Ward 20, Bed 298, on December 3, 1881. Patient had been travelling with a circus company. Stated he had been sick an indefinite length of time; did not know how long, nor where he was when he first began to complain. Entered with a flushed face, fever, diarrhœa, and complained of pain in back.

December 4.—Had been given ℥ij[1] Hauster's cinchonidia during the evening of the 3d of December by the house surgeon. Had had one liquid stool during the night. Ordered ℥j of H. C. every three hours.

5th.—Treatment continued.

6th.—Well-marked rose spots observable upon the abdomen; no pain, but lies with knees flexed; face flushed; vomited three times; complete anorexia; skin moist.

7th.—New rose spots observable; one stool resembling pea-soup; face flushed; some tympanitis and tenderness in iliac region.

8th.—One characteristic typhoid stool; new eruptions; gurgling in ileo-cæcal region; tongue brown-coated; face flushed and red.

9th.—Three characteristic stools since last observation; a few new eruptions; gurgling in ileo-cæcal region; tongue coated brown; patient is slightly deaf.

10th.—Patient delirious during the night, but complains this morning of pain upon pressure in ileo-cæcal region; headache; deafness; three stools since last report, still characteristic.

11th.—Four stools, somewhat more consistent; tongue the same as before reported; gurgling in ileo-cæcal region; patient slightly delirious.

12th.—No stools since last report; tongue brown-coated; sordes upon the teeth; delirious and attempting to leave bed.

13th.—One stool since last observation, probably induced by rectal injection of grs. xx of chloral hydrate in sweet milk. Patient restless during the night; abdomen tympanitic; tongue brown-coated; not so delirious to-day, but is still deaf.

14th.—No stools since last observation. Retained an enema of chloral hydrate, grs. xx, in milk. Much grinding of teeth at night, but not delirious; some deafness yet; perspired freely; tongue brown-coated.

15th.—No stools since last observation; tongue moist and cleaning. Very little delirium during the night.

From this time on, patient continuously improved, until the morning of December 22d, when he was discharged from treatment, but retained in the hospital until convalescence was perfected.

Having now rehearsed the leading clinical events of these cases with sufficient minuteness to give you a clear impression of their symptomatology, let me ask your attention to the *diagnosis* which has been announced. In other words, are the proofs unquestionable that the patients were really sick with typhoid fever? The diagnosis which has been given you is perfectly defensible in regard to each case.

1st. The symptoms relating to the nervous system—(a) ataxia, (b) delirium, (c) coma-vigil, (e) deafnesss—are clearly illustrative of typhoid fever.

2d. The characteristic march of temperature.

3d. The epistaxis.

4th. The diarrhœa with the (a) characteristic stools, and (b) gurgling in the ileo-cæcal region.

[1] Similar solution to liquor cinchonidia with the addition of 7½ drops of tincture of opium to the ℥.

And last of all: 5th. The typhoid roseola quite surely demonstrate that we had to deal with that disease.

Another question which naturally occurs to the physician of long practice in this part of the world, where malarial affections are so common, is whether the typhoid fever was uncomplicated in these cases. I have been able to show you in the wards of the hospital this winter, cases which presented the clinical phenomena of a pathology compounded by the co-existence of the malarial and typhoid fever poisons in the same person. In a future lecture I hope to demonstrate these cases, so as to point out the differences in their clinical courses as compared with the two cases which form the subject of this lecture. For the present, I can state that there were no evidences going to prove that these cases were complicated by the presence of any other specific poison than that of typhoid fever.

I hope, during the present course of lectures, to impress your minds with the importance of cultivating more precision in language in the use of the term *typhoid* in reference to any disease, than is generally employed in medical conversations, or even in some medical writings of the present day. We may properly speak of a patient sick with any form of disease as being in a typhoid state or condition. Here we use the term in its strictly adjective sense, but to speak of typhoid fever substantively, should convey to your mind the idea of a patient suffering from the effects of the specific typhoid poison. A malarial case which has fallen into a typhoid condition is not typhoid fever, and the term typho-malarial should be restricted to those cases in which the typhoid fever poison and the malarial poison are each present, and each pursuing its own morbid process and giving rise to its own symptomatology.

The morbid process of each of the two cases brought up before you seems to have been essentially that of typhoid fever. In the first place, we observe a general or constitutional effect of the poison in the occurrence of ataxia, feverishness, and epistaxis (in one case) as very early manifestations of the disease. I think the proofs are quite conclusive, that there is a general or constitutional effect of the typhoid fever poison before any symptoms are observable which indicate the production of its local lesions. Again we may say that while these constitutional effects, if such are produced, seem to antedate the occurrence of local lesions, it can also be stated that they bear no direct relation, in gravity, to the extent or severity of any local lesions which may subsequently occur. In respect to the febrile march, which is so characteristic of typhoid fever, it must be admitted that even if the feverishness which marks the early stages of the disease is an essential fever, *i. e.*, a fever produced by the action of the typhoid fever poison upon the heat-making processes by some influence exerted through the blood, the more intense fever which marks the fully declared disease does bear a direct relation to the progress and various stages of the local lesions. Before the first ten days of typhoid fever have elapsed the temperature begins to show a regular diurnal increase which observes a close co-relation to the progress of the intestinal lesions. When the temperature has reached its highest figure, it maintains itself very nearly at this stadium until the process of ulceration has come to a stop. Then we have oscillations of temperature exhibiting a close resemblance to those which occur in the hectic of phthisis, or other pyogenic conditions of disease. I think, therefore, that it may be safely affirmed that the typhoid fever poison has one effect upon the system which is general, and seems to be primary or essential; and another effect which is local, and which in order of sequence succeeds its primary effect.

It is always profitable to the practitioner of medicine to be conversant with the various modes through which any given disease ordinarily produces death. This is equivalent to that understanding of the strategy of an enemy which frequently gives the general his success. Death in typhoid fever cases most frequently occurs from:

1st. Exhaustion; there are four factors which concur in producing death in this manner:

a. The changes in the blood primarily induced by the poison.

b. The unusual high markings of the fever curves.

c. The excessive diarrhœa.

d. The damage to the digestive processes by reason of the lesions of the alimentary canal, and the consequent anorexia.

2d. Hemorrhage is also a mode of death by this disease. Hemorrhage sometimes occurs within the first ten days of illness from:

a. Congestion and breaking down of the capillaries in the mucous and sub-mucous tissues which are the seat of inflammation induced by the typhoid deposits.

b. When hemorrhage occurs during the third week of disease it is more apt to be due to the erosion of bloodvessels by the process of ulceration.

3d. Perforation is also a late event in the course of the disease, and in truth sometimes takes place after convalescence has seemed so complete that the patient has been discharged from observation.

4th. It should also be remembered that certain fatal sequelæ are liable to befall typhoid fever patients after the disease has run its course; for instance—

a. Heart failure in consequence of degenerative changes in its muscles; also

b. Diseases of the lungs, as pneumonia and tuberculosis.

The prognosis in typhoid fever must be based principally on the greater or less urgency of those symptoms which presage the occurrence of exhaustion. Great nervous ataxia, delirium, sinking in bed, insomnia, profuse exhaustive diarrhœa, incompetency of the nutritive processes, are unfavorable prognostics.

No specific treatment of typhoid fever can be formulated so as to be particularly gratifying to the practitioner of medicine, either as respects the soundness of the philosophy upon which it is theoretically based, or the results which it affords. Everywhere, and in all ages, the medical history of mankind appears to show some prompting in the direction of a specific for each of the maladies which afflict the race. The therapeutics of typhoid fever show a long list of remedies which have been suggested as possessing special efficacy in effecting its cure. I do not consider that it will be profitable to occupy your time in recapitulating the list of remedies which have been resorted to as specially curative of the disease. In looking over them you will find that, for the most part, each one was supposed to have reference to some particular phase or type of the morbid phenomena present. For example, yeast and charcoal, bicarbonate of sodium, and chlorate of potassium have been frequently used for their supposed antagonism to the septic nature of this disease. Iodine may possibly be classed in the same category. The calomel treatment, which has enjoyed so much reputation, is based upon its influence in antagonizing inflammation of solid structures and in eliminating by reason of its cathartic effect.

Typhoid fever has never under my observation been jugulated by any form of treatment which I have seen instituted. But notwithstanding the truth of this affirmation, we must admit that cases which cannot be otherwise diagnosed than as typhoid fever, do occasion-

ally terminate so easily and so suddenly, that we call them aborted cases.

These admissions in regard to our incapability of aborting typhoid fever, or curing it by any one specific remedy, need not dishearten us. There is a rational method of treatment, by which we can conduct a very large percentage of our patients through the dangers of an attack. I will as briefly as possible lay before you those methods of treatment which are regarded as productive of the most favorable results. As the measures of treatment differ in the various stages of typhoid fever, it will in all probability instruct you better, if, in speaking of any remedies considered to be indicated, I should at once give you my estimates of their methods of use and beneficial results throughout the clinical course of the disease.

As the fever is always an early and very important symptom in typhoid fever, let us first consider the antipyretic treatment of the disease. The application of cold to the surface is a very old form of practice for the reduction of temperature in this fever. This may be practised by means of cold baths to the whole surface, repeated as often as reaction occurs after their use; or cold sponging; or the applications of ice. This method of practice is applicable to cases in which the heart's action is vigorous and the surface warm; if there is a feebly acting heart, or if hemorrhage is threatened, it is inadmissible. Cold drinks, in sufferable quantities, are never objectionable. Injection of cold water in large quantities into the lower bowel is also a measure by which systemic heat can be certainly reduced.

Quinia in large doses is highly spoken of by continental physicians of Europe as an antipyretic agent. In order to obtain its good effects, it must be given in doses of ℈ij or more in the space of an hour. I have never practised this heroic administration of quinia for the purpose of reducing temperature, and can add nothing from my own observation to the testimony of those physicians who advocate it. It is very rarely that I have ever treated a case of typhoid fever in which I have not given quinia to the extent of ℈j or ℈ij within the first hours of treatment, for the purpose of eliminating whatever malarial pathology might be supposed to complicate the case. Later in the disease I have often given quinia during the oscillations of temperature which mark the later periods of the affection, both for the purpose of obtaining its tonic effect and also its probable good effect as a local antiseptic upon the ulcerated intestines. If the stomach does not tolerate quinia, its solution, if properly prepared, is generally retained and absorbed by the rectum. I have only further to say in regard to quinia that it is better borne by young persons than by adults, and, under my observation, is more likely to be followed by good results.

Diarrhœa is another symptom of great importance, and is seldom absent from cases of typhoid fever. It manifests itself during the first week of disease, or as soon as a hyperæmic condition of the intestinal coats of the bowels is induced by the typhoid infiltrations. In this stage of the disease it is very often advantageous to the patient to suffer the diarrhœa to go on unchecked. There are, however, cases in which this symptom is so aggravated and excessive in quantity during the first stages of the disease that it would be unwise practice to allow it to go on without interference. The practitioner must in each case exercise his own judgment as to the course he will pursue with reference to the diarrhœa. My own rule has been to endeavor to ascertain—first, if the stools are attended with a sense of relief to the patient; next, as to the amount; and, lastly, as to the condition of the patient as respects his strength and apparent capability to endure their persistence. If the stools are not exhausting, it is better for the first week of disease that they should not be too violently checked. Leaving out of view the question of elimination of the typhoid fever poison by means of the stools, so as to rid the patient of an amount of free poison in the intestines which would be subsequently absorbed, there can be no doubt that the diarrhœa does tend to relieve the hyperæmia and inflammation of the affected bowel. It seldom becomes necessary to urge the bowels to any action additional to that common to the disease. But I have nevertheless seen cases in which the administration of castor oil in teaspoonful doses every two to four hours seemed beneficial. I have, however, more often secured whatever benefits were to be derived from increasing the evacuations by large injections of water into the rectum; these injections to be given cold, provided the fever was intense. But, as a rule, the physician's energies are required to be directed to the limitation or arrest of the diarrhœa instead of its promotion. For this purpose we have nothing which can be substituted for opium. This may be given by the mouth, associated or not with an astringent; or it may be given by rectal or subcutaneous injection.

Hemorrhage is another symptom of great importance in typhoid fever. If it occurs in the first ten days of the disease, the probabilities are, as previously stated, that it is from the broken-down capillaries in the hyperæmic intestinal canal. Under these circumstances there is little danger of its becoming excessive, and physicians may trust its relief to ergot, in combination or not with some astringent, *e. g.*, gallic acid. In the latter stages hemorrhage is not infrequently a dangerous symptom, and physicians should endeavor to arrest it by more energetic practice. Gallic acid in camphor water may be given, five grains every second or fourth hour; or acetate of lead may be used. In either instance applying cold over and above the ileo-cæcal region should be resorted to. At the same time morphia may be administered by hypodermic or rectal injection. Long since, my experience taught me that intestinal hemorrhage, if properly and timely treated, was not so disastrous to life as it was once supposed to be.

Perforation is fortunately a rare event in typhoid fever. When it does occur, a fatal result is probably inevitable. My own opinion has been, that the very few instances in which recovery has occurred after supposed perforation have not, in reality, been instances in which that accident did occur, but only cases in which a suppurating gland had ruptured into the peritoneal cavity. In all cases where perforation has been diagnosed, the only treatment left us is large opiates, absolute rest, and the administration of liquid nourishment in small quantities frequently repeated.

The perturbations of the nervous system are important events to the practitioner who has care of a case of typhoid fever. The delirium of the first ten days may be alleviated by cold applications, or even in some instances by cutting the hair and the application of ice to the scalp, and the administration of bromide of potassium, or chloral hydrate. Later in the progress of the disease delirium is a more important symptom, and is due either to exhaustion, the accumulation of secondary poisons in the system the result of increased metamorphosis, or the interference with nerve function by the persistently heated blood. Insomnia and that marked form of insomnia called coma-vigil almost invariably accompany the delirium of this stage of the disease. It is of great importance that they should be relieved as promptly as possible. It may safely be asserted that if the physician regards the insomnia as the feature of these troubles which is first to be antagonized, he meets the chief indication. For this purpose we have a precious remedy in chloral hydrate.

This may be given in doses of ℈j or ℥ss, or even ℈ij, if the indications are urgent, either by mouth, or by rectal injection, dissolved in milk or suspended in beef-tea. Opium or bromide of potassium may be added to it if necessary, but I have generally found that chloral hydrate is sufficiently effective without the co-operation of other drugs. Dover's powder given in doses of grs. x, at night, often produces a very desirable effect.

You will observe nothing in this lecture in regard to the treatment of typhoid fever by means of mineral acids. I must, however, admit that within the last fifteen years I have scarcely treated a patient to whom I have not given one or more of these acids. Preferably I have used sulphuric acid, but occasionally nitro-hydrochloric—in every instance diluted—in the early stages of the disease, combined with ipecac, but in the stage of ulceration and cicatrization, combined with quinia or the tincture of cinchona; and frequently with tincture of opium. It is probable these acids may exert a beneficial local effect upon the inflamed intestine and may also further the digestive processes. But I reject the theory that they are beneficial because of any alkalinity of the system supposed to be peculiar to the disease.

Neither have I called your attention to certain symptoms, which, although considered of minor importance, so far as life is concerned, are still exceedingly troublesome both to patient and physician. One of these is tympanitis. For the relief of this I have generally resorted to injections of asafœtida in water or milk, and to turpentine stupes, and sometimes cold applications externally to the abdomen. Turpentine may often be given internally with decided benefit. I must, however, in this connection, take occasion to warn you against falling into the custom so common in the South, of resting the treatment of typhoid fever upon the persistent use of turpentine. A few doses of gtt. xx in emulsion and repeated not oftener than every third hour, constitute the limits of my administration of turpentine in the recent years of my practice.

Hiccough is another annoying symptom, sometimes indeed representing the last straw upon the camel's back. Bromide of potassium, chloral hydrate, belladonna, and camphor, and blisters to the epigastrium constitute the remedies upon which I have principally relied.

Bed-sores should be anticipated as far as possible by changing the points of pressure, and rubbing the endangered parts with alcohol, camphor, or arnica.

It would seem scarcely necessary to admonish you that attention to the nutrition of a typhoid fever patient is equally important with his medicinal dosing. For the first week of the disease, patients for the most part, may be fed upon farinaceous articles and digestible fruits and milk. A very agreeable article of diet to most patients is the traditional roasted apple and milk, sometimes to be rendered more palatable by the addition of a small quantity of sugar. As soon as the diarrhœa becomes a prominent event and the patient's condition becomes more ataxic, we must resort to concentrated animal food given simultaneously with farinaceous articles, as oatmeal and maize, or given separately at alternate intervals.

Failure of the heart, as evinced by weakened pulse or cooler surface, calls in the most decided manner for alcoholic stimulants. In truth the wise physician does not wait for evidences of a failing circulation to become strongly marked, before resorting to stimulants. I can certainly say that while I may have occasionally felt regrets that I had not earlier begun with alcoholic stimulants, I can not recall a solitary instance in which their administration has been injurious in any stage of the disease, or during any state of exalted temperature.

One additional precept in regard to the administration of alcoholic stimulants and food to typhoid fever patients is proper to be pressed upon you. This is, never to allow intervals between giving food and stimulants to your patients, to be extended by a longer period than three hours at furthest. Consequently in those conditions which are termed coma-vigil, food and drinks must be placed upon the patient's tongue at intervals of two to three hours, preferably the former. If the patients are much exhausted, they must be awakened from sleep to take nourishment and stimulants. Cold drinks in some agreeable form should be frequently given to a typhoid fever patient, from the beginning to the conclusion of an attack. These may consist of ice-water, lemonade, iced tea, apollinaris water, or, in the latter stages, barley-water or decoctions of rice.

The rooms of typhoid fever patients should be kept well ventilated, and the clothing and bedding frequently changed. The hair had better be cut short at the commencement of the affection. The surface should be frequently sponged with cold or tepid water, as may be most agreeable to the patient.

The stools should be so treated as to prevent the communication of the disease to other persons. They may be treated with sulphate of iron, or chloride of zinc placed in the bottom of the vessel, or they may be mixed with sawdust and burned; or they may be buried in the ground in some situation where all danger of doing mischief shall be prevented.

Convalescence should not too hastily be said to be confirmed in a case of a patient recovering from typhoid fever. Such accidents as perforation of the intestine and paralysis of the heart, have carried off patients who had been dismissed from treatment and observation.

ORIGINAL ARTICLES.

THE VESICULAR AND BULLOUS FORMS OF ERYTHEMA EXUDATIVUM MULTIFORME.

By I. EDMONDSON ATKINSON, M.D.,
PROFESSOR OF PATHOLOGY AND CLINICAL PROFESSOR OF DERMATOLOGY IN THE FACULTY OF PHYSIC, UNIVERSITY OF MARYLAND.

It is one of the great merits of modern dermatology, that it has simplified the study of skin diseases, both by the recognition of bonds of pathological relationship between a number of apparently dissimilar manifestations of disease and by the consequent adoption of much less complicated systems of nomenclature. With the older writers the tendency was to see in each separate lesion a distinct disease, and dermatological literature was thus saddled with a confounding multiplicity of terms, while the so-called individual diseases were, in many cases, so inextricably blended, that the closer attention the student lent to their investigation, the greater was his confusion. When, therefore, it became evident that many processes that may exhibit dissimilar clinical histories and a variety of lesions, may possess a pathological unity, an immense advance was made. Not to speak of eczema, that veritable dermatological Proteus, and acne, an example of this variety of lesions is shown in erythema multiforme. Diligent clinical observation has shown that a series of morbid manifestations, beginning with simple redness and extending through the development of papules, tubercles, vesicles, and even blebs, are all connected in a closely related group, to which the name of erythema exudativum multiforme was first

given by Hebra, and which is now universally adopted.

At present, as sub-varieties of erythema multiforme, are included E. papulatum, E. tuberculatum, E. annulare, E. iris, E. marginatum (E. gyratum), E. urticatum, E. vesiculosum, E. bullosum, Herpes circinatus, and H. iris. There are here collected a series of morbid processes, the nature of which, as yet not accurately determined by microscopical investigation, clinical observation shows to be essentially identical. These different forms may blend and show all degrees of transition among themselves; they also occasionally develop transitional phases with cutaneous affections of confessedly different nature. We thus find erythema multiforme in its urticate variety exhibiting relations with urticaria, in its bullous variety, resembling acute pemphigus in its papular and tuberculated and annular varieties and when extravasations occur, merging into purpura rheumatica. This blending of the characteristic features of erythema multiforme with those of other and usually unrelated affections indicate that in cutaneous pathology, as in every other department of natural science, hard and fast boundary lines do not exist, one form of disease imperceptibly blending with another; and that our nomenclature is devoted, for the most part, to types, the limits of which pass by easy grades into each other.

Erythema exudativum multiforme, as ordinarily understood, is "a skin affection which appears with, but more commonly without, fever, in the form of bright or dark-red, disseminated or thickly clustered efflorescences, either flat or studded with central papules. It always originates as an inflammation, appears in the form of spots, papules, or tubercles as large as lentils or hazel-nuts, and is accompanied by slight itching, burning pain, or a feeling of tickling. The efflorescences are almost always situated upon the backs of the hands and feet, upon the arms and forearms, the legs and thighs, more rarely upon the body and face, exceptionally upon the throat, scalp, and ears. They either fade without scaling, or slight desquamation or pigmentation develops. The erythema comes preferably in youth, seldomer in later life." (Neumann, *Lehrbuch der Hautkrankheiten*, 1880, p. 158.) It must be distinguished from erythema from simple hyperæmia.

If the eruption consists of papules, bright red or bluish in color (from extravasation of blood), somewhat flattened, and fading after a week or ten days or longer, it is called *erythema papulatum;* if of larger papules or tubercles, *erythema tuberculosum;* if the papules fade in the centre, becoming pale or bluish, while the peripheral portion remains or extends, it is called *erythema annulare;* if new circles appear within the first-formed circle, or if varying shades of coloring are left by the fading lesion, it is called *erythema iris;* if two or more rings thus formed coalesce, the condition is known as *erythema gyratum;* if the lesions resemble the wheals of urticaria, as sometimes happens, it is called *erythema urticatum;* if the exudative process is very acute and intense, so that small vesicles are formed upon the lesion, the condition is termed *erythema vesiculosum;* and if the central portion becomes depressed and dries, the vesicles form a circle constituting ordinary *herpes circinatus;* should one or more circles of vesicles form within the original one and form centrifugal layers of vesicles or crusts, it is called *herpes iris;* where the small vesicles are replaced by large blebs, *erythema bullosum* is recognized. While these modes of manifestation constitute non-essential variations of the same pathological process, we occasionally encounter them as complications of other disorders, or as forming stages of transition. Not very unfrequently one is perplexed in determining whether given cases represent phases of erythema multiforme, or of urticaria, purpura rheumatica, ringworm, and even pemphigus acutus.

I propose in this paper to direct attention to some of the more obscure varieties of erythema multiforme, especially as exhibiting in some part of their course, sub-epidermic collections of fluid, constituting vesicles, and even blebs. As showing transitional stages between erythema annulare, or iris, and herpes circinatus, the following case is related:

Case 1.—Mary R., 18 years old, a housemaid, of Irish parentage, applied for treatment February 24, 1876. She had an eruption that had made its appearance about the preceding Christmas. Her general health was excellent, and the eruption was the only disorder complained of. This was confined to the forearms, hands, and dorsal surfaces of the feet, and exhibited various stages of evolution, affording excellent opportunity for studying the course of the lesions. These began as minute, pearl-like papules, very itchy, situated upon small red areolæ, and of pinhead size. Within twenty-four hours the papules became larger, and their summits depressed, so that the effect of an elevated ring of eruption was given. The central depressions were often the seats of a slight serous discharge, which ceasing, the lesion gradually faded away, new lesions, however, constantly appearing. These lesions would not exceed in size the diameter of a small button, and in their stages of highest development exhibited the color characters of erythema iris. For example, there would be a red areola, within which was the annular elevation, paler in color and slightly resembling an urticarial wheal, while the color of the dusky centre gradually lost its hyperæmic redness and slowly faded, with desquamation. While this was the type of the prevailing form of eruption, there were scattered lesions that enabled one to perceive that the cause of the pearly color of the rings was serous exudation in the deep epidermic layers. Thus, flattened vesicles could be occasionally detected, the eroded summits of which discharged a thin, serous fluid. The peripheral extension of these lesions converted them eventually into flattened disks, exfoliating their scales from their pigmented surfaces. The patient was directed to take 7½ minims of Fowler's solution of arsenic, thrice daily, well diluted with water, after meals. Under this treatment the symptoms rapidly improved, but relapsed upon March 16th; and again April 22d, each time rapidly disappearing under the administration of arsenic. In the later attacks the lesions attained a diameter of one centimetre.

This case evidently closely resembled a case re-

lated by Mr. Jonathan Hutchinson in the "Descriptive Catalogue of the New Sydenham Society's Atlas of Portraits of Diseases of the Skin," part ii., page 71, and depicted in plate xxiv. My next case was somewhat similar, although the lesions were more unequivocally vesicular.

CASE II.—Thomas F., a young mulatto, laborer, 28 years old, came under treatment Jan. 29, 1876. Early in December the present eruption had appeared, first upon his hands (palms and dorsal surfaces) as little papules and vesicles. The eruption had been constantly renewed by fresh lesions, and upon his person, at his first visit, all stages of its course were represented. At scattered intervals, especially over his legs and arms, were large vesicles and small blebs or their remains. The true relationship of the lesions was revealed by a study of their symptoms. Upon the hands, for example, especially the palms, there were a number of spots, slightly elevated, and to the touch revealing infiltration and heat. These were as large as split peas, and when examined upon the pale-colored palms showed reddish areas inclosing slightly raised surfaces paler than the normal skin, while external to the reddened area were pale surfaces like urticarial wheals, but fading centrifugally (*erythema iris*). At their first appearance, these external pale elevations inclosed reddish spots which, themselves, did not have the raised whitened centres. As the spots grew older, they did not extend peripherally, but slowly faded, leaving brown desquamating surfaces. A decided tendency to chronicity was here present, as shown in the outbreak, which lasted nearly four months, almost disappearing under the administration of arsenic, but speedily reappearing when, as frequently happened, the treatment was neglected. A return of the eruption was observed the following October, which yielded promptly to the use of arsenic.

Cases such as the foregoing often offer great difficulties in reaching a correct diagnosis. Not unfrequently examples are observed where the lesions of erythema papulatum are so blended with bullous eruptions that one is enabled to recognize the relationship of the former eruption and erythema bullosum without difficulty. As an example of this may be briefly reported:

CASE III.—A young lady, stout and healthy in appearance, of slightly constipated habit, first noticed an eruption upon her skin in March, 1880. Since that time she had had it pretty constantly until I saw her, during the following September, when the eruption involved the face, neck, trunk, arms, hands (backs and palms), and feet, but not the thighs and legs, except about the ankles. The lesions began as small red spots, which rapidly became annular or circinate, and extended peripherally. Many of these rings were surmounted by vesicles and even blebs (*E. bullosum*), which were said at times to equal the size of plums. These vesicles and blebs never developed except *upon* the erythematous circles. Itching was not very intense, but burning pain was complained of. At the date of my first examination there were upon the neck and shoulders numerous narrow, bright-red, slightly elevated rings from 1 to 2 cm. broad (*E. circinatum*). Here and there clear, transparent vesicles were arranged in circles (*Herpes circinatus*). The eruption was said to be greatly under the influence of arsenic, and always disappeared when the patient was taking this drug, the object of her consultation being to secure, if possible, a remedy that would afford permanent relief. Some time previous to her visit to me, blebs had formed upon the soles of her feet, rendering her unable to walk. At my examination no blebs were detected upon the surface, but upon the fauces were vesicles of considerable size. The erythematous and vesicular lesions alone were visible upon the skin.

One cannot fail, in considering the history of this case, to be reminded of acute pemphigus, with which affection it undoubtedly presented close analogies. I think, however, that the true nature of the malady was indicated by the prevailing circinate lesions, and that the blebs were simply extreme examples of the lesions of erythema exudativum multiforme. This tendency towards more intense and rapid serous exudation is exemplified in the following case.

CASE IV.—Harry Gray, a very bright colored mulatto, 17 years old, slender, but fairly nourished, had had attacks of the present eruption during the preceding six years, at irregular intervals, but usually more severely in the spring. The present eruption appeared April 9, 1877. When seen by me, the following day, his face, neck, and portions of the trunk, were invaded by a multitude of vesicles, varying from the size of pinheads to that of peas, the smaller ones giving a rasping sensation to the finger. They were all situated upon erythematous bases, were discrete, not umbilicated, and dome-shaped. Upon the cheek a number of vesicles had developed in the form of a small circle. Upon the back of the hands and forearms, the eruption was papular. During the succeeding day, the lesions developed with great rapidity over the whole body, and many vesicles coalesced to form large blebs with clear, serous contents. Itching, which had been present at the outset, had now given place to intolerable burning, for which morphia had to be administered. At the same time there was mild, febrile movement with furred tongue. Already by the 11th, the intensity of the eruption had subsided and new lesions had ceased to appear. There was but little disposition towards rupture of the vesicles and blebs, and absolutely no moist discharge. The erythematous areolæ slowly disappeared and the bullæ and vesicles, while becoming turbid, became at the same time flaccid and shrivelled, finally collapsed, and formed light crusts. The papules upon the arms became more flattened and slowly subsided without pain or irritation. Recovery rapidly followed.

This case might have been mistaken for acute eczema or acute pemphigus. From the former it differed in the acuteness of the attack, the bullous character of the lesions, the failure to produce discharge and the rapidity of the recovery. Acute pemphigus has been made to embrace a variety of indeterminate conditions of bullous eruption, and, unquestionably, many such cases as the one I have

described have been classed as examples of this affection. Acute pemphigus is certainly exceedingly rare, and it is not impossible that most cases reported as of this disease may have really belonged to the series of affections classed under erythema exudativum multiforme, or unusual forms of several other diseases; and that acute pemphigus as a substantive malady has no existence. Beyond question the study of dermatology has been greatly simplified by such classifications as enable us to consider as parts of one essential process, the various lesions evoked in its course; and the recognition of the different degrees of alteration that may be produced, with their varying symptomatology, will greatly facilitate the work of the clinician and therapeutist, and offer a way out of many perplexing difficulties. The knowledge that erythema exudativum multiforme may manifest itself variously, and in one of its directions, by the symptoms of which I have been speaking, and that its range really includes several conditions formerly looked upon as distinctive maladies, at once places the clinician upon a firmer footing.

In conclusion, a few words concerning treatment will not be out of place. Ordinarily erythema multiforme runs through its course in from two to four weeks, and no special plan of treatment is known to uniformly effect a cure in less time than that. In the more chronic cases and especially in those more prone to relapse, and the unusual forms such as those reported here, the good effects of treatment may be expected with more confidence. I can with some degree of confidence assert, in confirmation of the experience of Hutchinson and others, that arsenic exerts a favorable action upon the course of the disease, securing a prompt subsidence of the lesions when administered in moderately liberal doses; indeed, improvement follows so promptly that it would almost seem to result from a specific action of the drug upon the morbid process. Unfortunately the improvement does not always remain permanent, and a premature abandonment of the treatment is pretty sure to be followed by a return of the symptoms, in those cases where the eruption tends to become chronic.

TWO CASES OF CEREBRO-SPINAL FEVER, WITH REMARKS ON THE ETIOLOGY, DIAGNOSIS, AND TREATMENT.

BY JAMES C. WILSON, M.D.,
PHYSICIAN TO THE HOSPITAL OF THE JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

THESE two cases, seen in private practice, have suggested to me several points of interest. Reports of single cases or of small groups of cases certainly lack the peculiar value which belongs to papers based upon collections of cases large enough to warrant broad generalizations, but they possess a value of a different kind, frequently not less positive.

Cerebro-spinal fever occurring in an epidemic form in districts where it was previously unknown, has not in all instances disappeared upon the subsidence of the epidemic. Occasionally sporadic cases continue to occur from year to year with such frequency and uniformity as to constitute the disease an endemic one in the true sense. This is, as I have recently pointed out elsewhere, the case with this disease in Philadelphia. The disease has become an abiding one with us, from sixty to ninety deaths having been ascribed to "cerebro-spinal meningitis," at the registration office of the board of health each year since 1873, the year in which the epidemic practically came to an end. These figures represent an extended, though numerically small prevalence of an affection having the characters of primary (idiopathic) cerebro-spinal meningitis and corresponding in all respects with the epidemic form. Neither at the bedside nor *post-mortem* can these cases be distinguished by any character whatever from those occurring during the destructive epidemics which have at long intervals overrun this country and continental Europe. The nature of the infecting principle of cerebro-spinal fever is involved in great obscurity—an obscurity greater than that of the cause of any of the other infectious diseases. To determine the identity or the non-identity of the causes of the sporadic and the epidemic cases, would be a long step in the direction of discovering the causes themselves. If they could be shown to be identical, the theory of a widely-distributed infecting principle (miasm) capable of a prolonged independent existence and under ordinary circumstances of feeble infecting power, would be alone tenable. In that case the development of special predisposing influences in individuals or communities would explain the sporadic or epidemic outbreak of the disease.

Incomprehensible as are the laws governing the spread of cerebro-spinal fever in epidemics, still more obscure and baffling are those which relate to the development of the sporadic cases. It is by the unremitting study of the latter, I believe, that we must attain a knowledge of the former. In the cases herewith narrated, the fact that the patients at different places had been exposed to like conditions of life, hot weather, sea-bathing, etc., sheds no light upon the causation of the attack. Thousands of persons at the same places, living the same life, failed to afford, so far as I can learn, another similar case of disease. The clinical history of these cases precludes the view of meningitis resulting from sunstroke or heat fever. The phenomena of such attacks were not present, the nervous symptoms were spinal rather than cerebral, and the evidences of an infectious rather than a simple inflammatory affection were ample. Moreover, the weather was far from excessively hot at the time of the development of each of the cases.

CASE I.—B. H., a bright, active lad of eight, whilst on a visit at the cottage of a relative at Spring Lake, N. J., was taken sick on Sunday evening, July 2, 1882, under the following circumstances: He had been at Spring Lake, a summer resort frequented by well-to-do people and never unduly crowded, for several weeks. There was not at that time any disease whatever prevailing in the settlement, which has been, since its origin, singularly free from sickness, and there was not then or in the neighborhood during the summer a single case in any way resembling that of B. H. A little

later a mild epidemic of whooping-cough made its appearance. B. H., had been constantly out in the air, but not unduly exposed to the sun; he had bathed in the surf every day. The day before he fell ill he had spent several hours in a boat fishing; the very day on which his illness began he had taken a moderately long walk, but had made no complaint of being tired, and had eaten a hearty supper of simple food. In the night he complained of being sick; on Monday morning he was feverish and vomited a small amount of undigested food. About noon he had a slight chill. I saw him July 3, towards evening. He then had slight fever, temperature 102°; pulse 120; and said his head hurt him. There were no other symptoms. Respiration not quickened; no undue redness of throat; no rash. I directed rest, regulated diet, milk and lime water, a little magnesia, and a small dose of sodium bromide at night. In the morning quinia sulphate gr. vj.

July 4.—The magnesia acted; patient passed a quiet night. Is feverish, complains of headache, but has no ringing in his ears; says that it hurts to swallow. Throat not reddened; tonsils not enlarged; no tenderness in region of angle of jaw. Tongue slightly furred. Temperature 104°; pulse 120. Chilliness, not amounting to a distinct chill, occurred about mid-day. The temperature was taken two hours later (104°). The area of splenic dulness is not increased.

Ordered sodium bromide grs. v q. s. h., and additional quinia, grs. vj, in the evening. And the same to-morrow morning.

5th.—1 P.M. Fever continues. Temperature 103°; pulse 112. Has vomited on two occasions a little mucus. About noon complained of chilliness, but it was slight and soon passed away. Swallowing still gives pain, and the head is held a little stiffly. To use the patient's own words, his neck is "Kind o' stiff." Nevertheless he can slowly turn his head from side to side and even bend his chin towards his breast. Pupils alike and react to light; neither contracted nor dilated; there is intolerance of bright light. There is tenderness over abdomen, but careful examination makes it evident that it is hyperæsthesia of the skin, not deep tenderness. The spleen is not enlarged. It is now evident that the illness is neither intermittent nor remittent fever. The quinia is discontinued. The sodium bromide is increased to grs. viij q. s. h., and with each one he is to have morphiæ sulph. gr. $\frac{1}{16}$.

6th.—A quiet night, but complains of pain and stiffness whenever awake. Bowels constipated. There has been occasionally slight vomiting without nausea, a little mucus or the milk, as the case may be, being thrown up. There is no longer any doubt about the diagnosis.

11 A.M.—Temperature 104.5°; pulse 120. 7 P.M. Temperature 105.2°; pulse 128. 10 P.M. Temperature 104.5°; pulse 140.

Pupils slightly contracted; patient disposed to sleep, but easily roused; mind clear; answers questions clearly, but constantly when awake complains of pain in back of neck. There is thirst and entire disinclination to take food.

7th.—Thirst less urgent; skin moist; lips slightly bluish. Heart sounds clear; no murmur. No disposition to vomit.

8 A.M. Temperature 103°; pulse 134; respiration 40. 5 P.M. Temperature 103.5°; pulse 120; respiration 35. 10 P.M. Temperature 101°; pulse 120; respiration 28.

Bowels, which have been constipated for several days, relieved by calomel in one-grain doses morning and evening. Brandy, a teaspoonful every fourth hour, and a four-grain suppository of quinia night and morning has added to the treatment, the morphia being at the same time reduced to gr. $\frac{1}{32}$ q. s. h.

8th.—Condition the same. 10 A.M. Temperature 102°; pulse 120; respiration 30. 7 P.M. Temperature 101.8°; pulse 120; respiration 36.

9th.—Decided improvement; had a good night; lips have lost lividity; head-pains have ceased; can move head from side to side and forward, and without pain, but still stiffly A plentiful eruption of acne has resulted from the bromide, which has been given less frequently for a day or so and is to-day stopped. P.M. Temperature 101°; pulse 120; respiration 36.

10th.—Improvement continues; strength better; asks to get out of bed. 10 A.M. Temperature 99.8°; pulse 100; respiration 32.

11th.—Complains of right shoulder, when upon examination I found a patch of herpes as large as a silver dollar. The morphia discontinued.

13th.—Fully convalescent.

16th.—To-day the patient was allowed to go to drive. From this time he rapidly gained strength, and continued well until his return to Philadelphia, in September. There were no sequels.

This case presented at the onset the characters of an ordinary intermittent fever and was so regarded by the friends of the patient and by myself until the third day. It was in fact an example of the so-called intermittent variety of cerebro-spinal fever. In this view, Drs. Hughes and J. M. Adler, gentlemen who saw this case with me, and who had abundant opportunities of seeing the disease in its epidemic form some years ago, unhesitatingly concurred.

Points of importance in the differential diagnosis from intermittent fever early in the attack, are the irregularity of the periodicity, the headache between the chills, and the failure of quinia to influence the fever even in doses of six grains twice a day for a child of eight. Later all doubts as to the nature of the sickness was settled by the development of spinal symptoms. I regard the outbreak of herpes upon the shoulder as of diagnostic moment.

CASE II.—The evening of Sept. 7, 1882, I saw, with Dr. Ellwood Wilson, Miss E. H., aged 18, at her home in this city. She was then about seven or eight days ill, and presented symptoms of the gravest character. I learned that she had spent part of the summer at Atlantic City, and had been whilst there in good health until the day before returning home, when she was observed to be somewhat listless and disinclined to exertion. She came to Philadelphia Aug. 29th, and although feeling out of sorts went, in accordance with previously ar-

ranged plans, with her mother, on Aug. 31st, to Elmira to visit friends. Upon her arrival there, she became at once seriously ill with headache of great intensity, nausea, stiffness of the neck, and nocturnal delirium of a distressing kind. Her mother was ordered to bring her home, where she arrived after a journey of great suffering, Sept. 5th. Her condition from this date was that of extreme illness, with great depression. On the 7th, the following notes were made at the bedside: A tendency to constipation has existed from the beginning of the sickness; the bowels have acted only once or twice, and that under the influence of medicines. The nausea which was distressing in the early days of the attack has ceased; there is no vomiting. The tongue is covered with a thick, whitish paste; there is slight tympany, but no abdominal tenderness, although it is carefully sought for, enteric fever being borne in mind. This suspicion is favored also by the fact that two or three days ago there was a slight attack of bleeding at the nose. There is painful stiffness of the neck and retraction of the head. The patient lies quietly, with her head burrowed back into the pillows, and objects to being disturbed. The headache has ceased; there is great intolerance to sounds, but moderate light does not disturb her. There is general hyperæsthesia of the skin. She cries out when even lightly touched. The pupils are of moderate width and react very sluggishly to light. They are alike; there is no squint. Occasionally slight general convulsive movements are observed. Pulse 128, full, but very compressible. Skin dusky and feet cool. There is no eruption. Mind perfectly clear. Urine highly albuminous, and up to this time not decreased in quantity.

8th.—Skin very dusky. Pulse full, soft, and very irregular, both as regards frequency and force. It fell, after the hypodermic injection of two fluid-drachms of brandy, from 140 to 120 beats per minute. Without this influence I found it varying 20 beats within ten minutes. Urine scanty and albuminous. It was not examined microscopically. Heart sounds clear and sharp; no murmur. Right lung deeply congested; respirations 40 per minute. The area of splenic dulness is not increased. The head is still retracted as yesterday; the hyperæsthesia intense over abdomen, chest, arms, and legs; the patient is dull (somnolent), but can be aroused. She dislikes being disturbed. Death took place in the afternoon. No examination of the body was permitted.

The following pulse and temperature observations were recorded:

Sept. 6th.—1 P.M. Pulse 100; temperature 102.9° 8 P.M. Pulse 104; temperature 101.5°.

7th.—9.30 A.M. Pulse 96; temperature 101.3°. 6 P.M. Temperature 105°. 8 P.M. Pulse 128; temperature 105.1°.

8th.—8 A.M. Temperature 105°. 9 A.M. Pulse 140; temperature 104°. 12 M. Temperature 103.5°.

The treatment from the time of the patient's return to Philadelphia consisted of artificial heat to surface of the body and limbs, free stimulation with brandy and champagne, small doses of morphia combined with ammonium bromide and sodium bromide, and calomel. What the treatment may have been previous to her starting upon the journey home, we could not learn.

The problem in diagnosis presented by this case related to the possibility of its being a case of enteric fever with spinal symptoms, first seen by Dr. Ellwood Wilson and myself, in a condition of collapse from some obscure intestinal lesion. It is true that in a small number of cases of enteric fever, and commonly in females, rigid contractions of the muscles of the trunk, extremities, and even of the neck, have been observed; cutaneous hyperæsthesia has also been reported in rare instances by competent observers. In enteric fever, as known to American practitioners, these are very uncommon symptoms.

Bearing in mind the possible recurrence of such symptoms in enteric fever, we were led to the closest scrutiny of the clinical features of the case. The abrupt onset of the sickness, which amounted to a formidable illness by the fourth day; the speedy failure of the vital forces, a condition approaching collapse developing by the end of a week; the brief illness; the early nausea, delirium, and frantic head-pains; the constipation, slight tympany, small spleen; tense, painful rigidity of the neck muscles; the exquisite and widespread hyperæsthesia; the intolerance of sounds, and the convulsions constitute a complexus of symptoms characteristic of cerebro-spinal fever, and widely at variance with enteric fever even in cases of anomalous kind.

It is to be regretted that an examination after death could not be made.

In general terms the treatment by the bromides, by opium or its derivations given early, and in full doses, calomel occasionally for its purgative effect, absolute rest and quietude, stimulus and artificial external warmth in the period of depression, and bland nutritious food in moderate quantities, promises both in theory and by experience the best results. In respect of the journey, the patient's mother spoke of her sufferings as *indescribable.* Nothing but the most urgent necessity can justify medical permission to a patient suffering from such an illness as this to take a long railroad journey to reach home.

MEDICAL PROGRESS.

INTERMITTENT FEVER AND ENDOCARDITIS.—LEYDEN divides his cases into four groups: first, cases where the endocarditis depends upon pyæmic and septic processes; second, cases where the endocarditis is associated with an irregular febrile process and erratic chills; the third and fourth groups consist of cases in which the causes of the fever correspond more or less closely with a typical intermittent fever, with paroxysms and states of apyrexia, not, however, always at perfectly regular intervals, though they may resemble a perfect quotidian or tertian type. These cases he again divides into two other groups, viz., intermittent fever without any previously evident heart lesions, and intermittent fever occurring in an individual with some compensated heart lesion. He believes that such cases are not invariably fatal.—*Centralb. f. d. Med. Wissen.*, November 4, 1882.

Tubercular Ulcer of Stomach.—Dr. Pisek, of Lemberg, records (*Deutsche Med. Zeit.*, No. 41) an instance of the above disease in the dead body of a man thirty-five years old. There were cheesy nodules in the right lung and peritoneum, with also some translucent tubercles in the latter. The mesenteric glands were enlarged and cheesily degenerated. The stomach was moderately large. On the pyloric region of the serosa, which was adherent to the liver, there were some semi-transparent tubercles. The ulcer existed on the mucous membrane near the pylorus on the posterior wall, was rather more than an inch long, and about an inch wide, of oval form; the edges were ragged, thin, undermined slightly, of gray color, and here and there infiltrated with yellowish granules the size of a pin's head; the ulceration extended as deep as the muscular coat. In the duodenum were two similar ulcers; nothing else in the rest of the intestines. No history of the patient's illness is given. Primary tuberculosis of the stomach is unknown. Tubercular disease of the stomach may, however, exist without affection of the rest of the alimentary tract. The diagnosis is not possible during life.—*Medical Times and Gazette*, November 11, 1882.

Treatment of Chancroids.—In relating his experience in the Lock Wards of the Edinburgh Royal Infirmary, Mr. A. G. Miller says that his treatment of chancroids has been modified very much, and latterly simplified, and also, he is sure, much improved, since the introduction of iodoform as a remedy. He used to cauterize these sores, especially when phagedænic, destroying them with caustic potash or chloride of zinc. Now he simply dusts them with iodoform powder and keeps them dry, and they invariably heal up in a few days.

Iodoform is especially useful in the female on account of its power of diffusing itself and penetrating into corners. Formerly, with the caustic treatment, he was never certain that he had destroyed all the sores, and knew that if one was left the chancroidal action would reproduce itself. Now he can be perfectly certain that if he puts on the iodoform freely the disease will be thoroughly checked. The action of iodoform on phagedænic sores is even more remarkable than on ordinary chancroids. His experience is that 24 hours, or at most 48, are quite sufficient to establish a healthy action in the sores. He uses the iodoform pure, the crystals being pounded to a fine dust, which is blown on to the parts affected by means of an instrument consisting of a wooden tube, widened out at the centre, where the powder is placed, and then blown out at the nozzle by pressure (with the thumb) on the India-rubber ball placed at the other extremity. When the labia are held aside by means of Dr. Henderson's forceps in the hands of an assistant, the surgeon can blow any quantity of the powder that may be necessary directly on the affected parts, and as these are always damp, a sufficient quantity of the iodoform adheres to destroy the septic action of the sores. If all the sores are not reached at first, a second or third application may be necessary. Generally there was sufficient dusted on to act on all the sores, even those that were out of sight.

Chancroids on a syphilitic person run an ordinary course, but are apt to be followed by condylomata.—*Edinburgh Medical Journal*, November, 1882.

Irrigation of the Bowel in Dysentery.—At the meeting of the Cincinnati Academy of Medicine held October 30th, Dr. Whittaker called attention to the obstinacy of chronic dysentery to treatment. Mr. Ward, of London, said that those cases that lasted longest, and finally got well, had least to do with therapeutics. The speaker had recently, at the Good Samaritan Hospital, a case of dysentery with fifteen to twenty discharges in the twenty-four hours. When the patient was first seen she had been in the hands of several physicians, and her case seemed hopeless. He gave her large doses of ipecac, thirty grains every four hours, in the beginning. The second dose controlled the discharges, but after the third or fourth powder they again became very bad. He then thought of trying irrigation of the bowel with a solution of nitrate of silver, after the method recommended by H. C. Wood, one and a half drachms to three points of water. This was carefully injected and the effect was very marked, the patient having but one stool in twenty-four hours. The collapse disappeared, but the next day the dysentery returned. He then gave two or three doses of opium to the patient to stimulate the brain, but it seemed to give her great discomfort. The second day the dysentery returned, when he again repeated the injection, but instead of nitrate of silver he used a solution of alum, one drachm to the pint of water, injecting as large a quantity as possible, which in this case was three pints. The discharge then ceased, and since then the patient has entirely recovered.

The irrigation method is nothing new in the treatment of dysentery. Sydenham treated his patients by drenching them with water, both by mouth and rectum. Aretaus spoke also of washing out the bowel, although neither of the old writers mentioned astringents.

Stephen McKenzie, of London, has recently advocated irrigation in this way, showing that no force was necessary, all that was needed being simply to pour in the water from a funnel and tube. It is a very great question if the action of the astringent has so much to do with the case as the flushing out of the detritus and the poisonous germ. The failure of the ipecac in this instance shook the speaker's faith in this remedy though he had seen chronic cases cured by ipecac in two days. He was under the impression that it would relieve almost any case except where there is an hepatic abscess. This was the second case where ipecac failed in the practice. The best results have usually come from the recent or acute cases.

In concluding the discussion, Dr. Whittaker said that the suggestion had been made that the distention of the bowel might as much have caused the beneficial result as the flushing out. As the bowels are frequently very much distended with gas where the disease is very severe, certainly the mechanical dilatation does not amount to anything. It is no longer tenable to exclude micro-organisms as a cause, because of chronicity of an affection, as the greater forms of life, like trichinæ, have been found in the tissues after twenty years. Dysentery is a disease which constipates the bowels, the scybala acting as irritants, hence it requires laxatives, not astringents, in its treatment. The truth is the internal use of astringents is contraindicated in every stage.

One of the gentlemen thought that the injection might be more efficacious in our latitude than in warmer climates. The speaker would remark that it was just in a warm climate, the East Indies, where the irrigation treatment was used with such success. Its failure in many cases may be due to the fact that the method was not carried out properly; the fluid must be allowed to run in so as to completely inundate the bowel. The large bowel in a full-grown male will hold six imperial pints.

Another member thought the disease might be due to exposure to cold. That theory may hold good in some cases, but the prevalence of the disease also in hot weather will not refer every case to this cause. Cold weather often puts a stop to epidemics of this disease. The contagiousness of the disease is also pretty

generally accepted. Formerly the explanation of a *locus minoris resistentiæ* was deemed sufficient to account for the cause of this, as of any disease after exposure, but the direct explanation has been afforded by the experiments of Pasteur with the attenuated virus of fowl cholera that a reduction of temperature will permit the growth of micro-organisms that would not grow without it.

As the disease is simply local and not constitutional, the secret of its treatment lies in topical measures, just as we treat any other local disease. It is necessary with the irrigation treatment that the quantity of fluid be large. Some agents are used with the water, not wholly without danger from being absorbed and setting up unpleasant constitutional results. Thus carbolic acid may prove dangerous from the absorption of the poison by the vast denuded surface of the intestine. So also unpleasant results may follow the use of nitrate of silver—argyrosis—so that a solution of common salt should be at hand to follow it. In the case reported the disease yielded so immediately to the alum irrigation that no matter what theory was propounded, the relation between cause and effect was clearly shown.—*Cincinnati Lancet and Clinic*, November 18, 1882.

Scarlatiniform Erythema in the Course of Acute Rheumatism.—At the meeting of the Société Médicale des Hôpitaux held October 13th, M. Hallopeau reported a case of acute rheumatism in which there occurred an intensely red, livid eruption on the entire body, accompanied by chilliness and exacerbation of the febrile movement and malaise, but with no anginose symptoms; the temperature of the skin to the touch was greatly increased. This lasted one week and then desquamation commenced in the form of white scales on the face and in large patches on the trunk and limbs. Three days later, pericarditis occurred, accompanied by intense dyspnœa and pulmonary congestion, and proved rapidly fatal.

At the autopsy there was found a marked thickening of the corneal layer of the epidermis and decided projection of the papillæ. The patient had had a similar attack accompanying an attack of rheumatism four years previously.—*Journ. de Méd. de Paris*, November 4, 1882.

Abortive Treatment of Facial Erysipelas.—Norregard (*Nordisk med. Arch.*, vol. xii., No. 27) has several times checked the progress of facial erysipelas by drawing a thick ring of collodion around the affected part, not over the whole surface, as by others. Dr. Christie mentions a similar case, in which the swollen skin bulged over the ring without being able to pass the barrier. The ring must be strong, especially on the bearded portion of the face.—*Arch. of Dermatol.*, October, 1882.

Albuminuria in Phthisis.—Dr. Cailleret, in a well-written thesis (*Paris Médical*) upon this subject, arrives at the following conclusions:

1. Albuminuria in the tuberculous is found in about one-sixteenth of the cases, according to the different statistics given.

2. Albuminuria is always a serious complication of phthisis; it may be transient or permanent.

3. Transient albuminuria in phthisis, as in all consumptive diseases, is a dyscrasic albuminuria, connected with a renal congestion; when permanent, it is dependent either on a tuberculous, epithelial, or interstitial nephritis, or upon an amyloid degeneration of the kidneys.

4. Albuminuria does not seem to influence the progress of pulmonary phthisis, or to hasten the evolution of tubercles.

5. The prognosis is always grave when there is a permanent albuminuria, for there can be no hope of cicatrization of the pulmonary lesions.

6. Milk diet is the one which has given the best results, and which ought to be applied, together with astringents.—*St. Louis Medical and Surgical Journal*, November, 1882.

The Temperature During Menstruation.—Dr. Kersch, of Prague, has drawn up a table of temperatures during menstruation, from which it appears that the normal temperature is not the same in all individuals; it varies between 99° and 97° Fahr. Moreover, during the first days of menstruation the variations in temperature are sometimes more, sometimes less (from 100.5° Fahr. highest, to 98.8° Fahr. lowest). From the second day onwards the temperature gradually sinks, so that on the day after the cessation of the flow it is again normal. It further appears that the process of ovulation sets in with a rise of temperature, which, in youthful individuals, may be as much as nearly 2° Fahr., and is at least 1.25° Fahr. According to Dr. Hennig, of Leipzig, the body-heat rises to about 99.5° Fahr., and again sinks to 98.5° Fahr. before the period, mounts again to 99.5° Fahr. on the day on which the flow begins, falls off shortly before the termination of the period to 97.5° Fahr., then rises again to 98.5° Fahr., at which it remains during the cessation, and immediately afterwards falls to 97.5° Fahr.—altogether three waxings and wanings: one before, one at the beginning, and one at the ending of the process. Hennig did an ovariotomy on a woman, aged forty-eight, whilst the menses were present, and noted the same evening a temperature of 101.3° Fahr. in the axilla, the pulse not being accelerated. The temperature next day was 101.5° Fahr., and on the third day after the operation 99.5° Fahr. This state of heat of the skin the author thought to be due to the menses. In another case of ovariotomy on a girl aged twenty, where menstruation came on seven days after the operation, the body-heat rose 2.5° Fahr.; the rise of temperature fluctuated during the menstrual period between 1.5° and 2.5° Fahr. (Hennig), and 1.25° to 2.0° Fahr. (Kersch).—*Medical Times and Gazette*, November 11, 1882.

The Pathology of Round Ulcers of the Stomach.—Quincke reports some experiments made by his pupil, Daetwyler, as to the pathology of gastric ulcers. These experiments showed that in dogs with gastric fistulæ, mechanical, thermal or chemical stimulation of the gastric mucous membrane produces very little effect, and that even when a circumscribed piece of tissue is removed by ligation and cauterization, it rapidly heals, leaving a circular depressed cicatrix; even when the loss of tissue is very deep, healing occurs in from fifteen to twenty days, when the dogs are in good health. When, however, they were rendered anæmic by previous bleeding, healing was very much delayed, and the constitutional effects were much more marked. So, also, while ordinarily in the human stomach loss of tissue can be rapidly repaired, in anæmic or chlorotic subjects, in whom the processes of nutrition are inactive, they may become chronic and degenerate into ordinary chronic gastric ulcers.—*Gaz. Méd. de Paris*, November 4, 1882.

The Etiological Relations of the Bacillus Tuberculosis to Tuberculosis.—Dr. H. F. Formad, Lecturer on Experimental Pathology in the University of Pennsylvania, has been conducting an elaborate series of researches on this subject, from which he draws the following deductions.

1. The predisposition to tuberculosis in some men and animals, the so-called scrofulous habit, lies in the

anatomy of the connective tissue of the individual, the peculiarity being a narrowness of the lymph-spaces, and their partial obliteration by cellular elements.

2. Only beings with such anomalous structure of connective tissue can have primary tuberculosis, and such animals invariably do become tuberculous from any injury resulting in inflammation, or from repeated injuries.

3. Scrofulous beings can have no other than a tuberculous inflammation, although it may remain local and harmless.

4. Non-scrofulous men or animals may acquire the predisposition to tuberculosis through malnutrition and confinement, the latter bringing on the above-mentioned anatomical peculiarities in the connective tissue.

5. No external etiological influences are necessary to cause tubercular disease other than those which ordinarily produce inflammation, and even scrofulous beings will not become tuberculous unless local inflammation is set up. No inflammation, no tuberculosis.

6. Non-scrofulous animals, so far as can be established now, may acquire tubercular disease through injuries of serous membranes, viz., peritoneum, pleura, etc., and even here without any special virus whatsoever. Clinical observations on the post-mortem table show similar conditions and prove the same in man. (Dr. Formad also claims that Koch's own experiments are also in favor of this proposition; but that he has overlooked this.)

7. The bacilli, which it is the merit of Koch to have first proved to infest tissues affected by tubercular disease, are not necessary for its causation, even if a special organism exist and be really possessed of such property. The presence of bacilli (so far as our present research goes) is secondary, and appears to *condition* the complete destruction of the tissue already diseased and infested by them, and this destruction is in direct proportion to the quantity of the organisms, which thus regulated the prognosis. The tubercular tissue seems to serve merely as a nidus for the growth of the bacillus.

8. From the results of microscopic examination, from numerous observations upon the post-mortem table, and on clinical grounds, he has come to the conclusion that phthisis is not a specific infectious disease, but that the individuals suffering from tubercular disease are specific themselves originally, and form a special species of mankind, the "scrofulous."

9. Scrofulosis is a condition which may arise from malnutrition and seclusion in any being, and thus may be produced artificially. It always depends upon the demonstrated anatomical changes in the connective tissue.

10. An analysis of Koch's experiments shows that he has not proved the parasitic nature of phthisis, or that there exists a special Bacillus tuberculosis; so that the infectiousness of tubercular disease is still *sub judice*.—*Philadelphia Medical Times*, November 18, 1882.

CYSTIC TUMOR OF NECK; INCISION; SUPPURATION; SUDDEN HEMORRHAGE: DEATH.—The following case occurred under the care of MR. SAVORY, in St. Bartholomew's Hospital: A. B., a cabman, aged fifty years, was admitted into Abernethy Ward, St. Bartholomew's Hospital, March, 1870, under Mr. Savory's care. He presented a soft swelling on the right side of the neck, coming from below, and partially overlapping the sterno-mastoid muscle. The presence of fluid being suspected, a small incision was made into the swelling, and some two or three ounces of clear cystic fluid were evacuated. During the next three days a slight discharge continued, which then became purulent; this continued during the next ten days. At midday the ward-sister was called to the patient, who was sitting up in bed, with a jet of blood spurting out through the sinus. The Surgical Register, who happened to be in an adjoining ward, was immediately summoned, and arrested the hemorrhage by digital pressure on the carotid. Mr. Savory upon seeing the patient half an hour later, sent him at once to the theatre, Mr. Symonds still continuing pressure on the wound. After anæsthetizing, the finger was removed, when the hemorrhage at once recommenced. Mr. Savory laid the sac freely open, and turned out a quantity of blood-clot. After careful search the bleeding orifice could not be found; the pulsation of the carotid was felt in the deeper parts of the wound. The artery was therefore cut down upon by slightly extending the incision, and tied with a silk ligature. The patient, however, who was much exhausted before the operation commenced, never recovered consciousness. He died comatose next day.

At the autopsy an opening was found in the external carotid artery about half an inch above its bifurcation.—*Medical Times and Gazette*, November 11, 1882.

PEPTONURIA.—DR. RUDOLF JACKSCH shows that peptonuria is rarely met with in infectious diseases, or in pernicious anæmia, or leukæmia. The absence of peptonuria in the latter disease is remarkable, since the blood in such cases is usually found to be rich in peptone. Peptonuria generally occurs in the stage of resolution of pneumonia, and lasts ordinarily for two days after the process is completed; so also in cases of pleuritic exudation, peptone is generally found in the urine, and usually in increased amount when resorption commences. Peptonuria can also be detected in meningitis, in phosphorus poisoning, and in cases of scorbutus.—*Wiener Med. Presse*, October 22, 1882.

SYPHILITIC AFFECTIONS OF THE EYELIDS.—DR. THEODORE WIETHE contributes three cases of lid-syphilis under as many forms, viz.: 1. Initial sclerosis of the lower lid. 2. Ulcerated papule of the upper lid. 3. Gumma of the lower lid. He introduces the statistics of Zeissl, who, among 40,000 cases of syphilis, saw only eight of affections of the lid, and remarks that the oculist meets with but one undoubted case of syphilis of the lid in 10,000 eye patients. A lengthy description of each case is given, with references by comparison to the cases of Arlt, Hirschler, Desmarres, and Galezowski. Treatment consisted of iodide of potash, inunctions of mercury and iodoform locally: recovery followed in each case. It is worthy of note here, that the microscopical examination of a section of the gumma taken from its groundwork gave swollen fibrillæ of connective tissue.—*Arch. of Dermatol.*, Oct. 1882.

THE ELASTIC BANDAGE IN THE TREATMENT OF VARIOUS SURGICAL DISEASES.—SÉE (*Bull. de la Soc. de Chir. de Paris*) speaks highly of the elastic band in the treatment of the following diseases: 1. Œdema of the limbs due to cardiac, hepatic, or venous disease, or to cachexiæ. 2. As an adjuvant to massage in the treatment of sero-plastic effusions remaining after diffuse phlegmon. 3. Interstitial effusions of blood due to contusions, etc. 4. Chronic serous arthritis after acute joint disease. 5. Circumscribed or diffuse inflammation in all stages of its development. The elastic support here replaces the weakening poultice, and is, besides, superior to the latter through its influence over the blood-flow. 6. Ecthyma of the limbs, and ulcers (atonic, callous, varicose). 7. Recent sutured wounds. The bandage is here applied over a Lister's dressing. Certain general precautions are to be observed, such as extremely slight pressure, exact overlapping of each turn, and the elastic band to be changed every two or three days and washed in a solution of carbolic acid.

The bandage acts by its constant equable pressure, it also retains the cutaneous secretion (thus acting more or less as a tepid compress or poultice), and by preventing the entrance of spores, etc., effectually aids the antiseptic dressing.—*Edinburgh Medical Journal*, November, 1882.

Treatment of Epilepsy.—Dr. Saundby read a paper before the Midland Medical Society, on October 25th, on the treatment of epilepsy, in which the following points were insisted on.

1. The value of combining the bromides of potassium, sodium, and ammonium, as recommended by Professor Brown-Séquard; 2. The advantage of adding tincture of digitalis, and sometimes theine, to the mixture, to counteract the depressing influence of the bromides; 3. The utility of zinc as an adjuvant in the treatment; 4. The successful use of borax in some cases of obstinate epilepsy, of which two illustrative cases were given; 5. The value of theine or caffeine and nitro-glycerine in the treatment of epileptic vertigo.—*British Medical Journal*, November 11, 1882.

Lung with Impacted Foreign Body.—Dr. Norman Moore, at the meeting of the London Pathological Society held November 7th, showed the right lung of a girl aged twelve years, who died of typhoid fever. The lung was partially collapsed, and in its lowest lobe were several reddish patches. In one of these, near the pleural surface, was fixed a spicule of bone, one-third of an inch long. The spicule, which looked like the neural spine of a fish vertebra, had one end in a minute bronchus, the wall of which it had penetrated. Four years ago the child was suddenly seized with pleurisy. She was tapped in St. Bartholomew's Hospital, pus was let out, and, as the wound continued to discharge, a drainage-tube was put in. The child attended with this as an out-patient, and at length the wound was closed. The scar was distinct, and beneath it the lung was firmly adherent to the chest-wall. The spicule of bone, passing deep into the lung, probably set up a pneumonia, which was followed by the empyema four years ago. The empyema was concluded, but the bone remained fixed in the lung—a very exceptional circumstance. The typhoid fever of which the girl died was remarkable in the large extent of intestine affected, and in the fact that the middle part of the vermiform appendix was externally tumid, and internally ulcerated all round. Perforation of the vermiform appendix had occasionally been a cause of death in typhoid fever, and had been ascribed to a condition preceding the fever. In this case, and in another post-mortem which he had lately made, the ulceration of the vermiform appendix was clearly one of the results of the typhoid fever. A further point of interest was that in the middle of the epiglottis there was a small ulcer.—*Medical Times and Gazette*, Nov. 11, 1882.

Chronic Interstitial Hepatitis.—From numerous experiments Dr. Maffuci (*Lyon Médicale*, September 3, 1882, from *Il Movimento, Giron. dei Scien. Med.*, 1882, No. 2) has formulated the following statements:

1. Hepatic cirrhosis is always situated in the tissues surrounding the portal vein.

2. The periphlebitis is produced by the presence of chemicals or virulent poisons in the blood circulating through the vein.

3. The inflammatory process is similar to that which is observed in all the other organs; it is characterized by hyperæmia with migration of leucocytes, and by the organization of the exudations.

4. The periphlebitis is perfectly distinct from the interstitial inflammation of the liver provoked by the presence of biliary calculi.

5. The serious affection of the nutrition of the hepatic arteries determines the necrobiosis of the liver.

6. The interstitial alterations of the liver provoked by the arterial lesions are very different from those caused by the periphlebitis.—*Glasgow Medical Journal*, November, 1882.

Acetal as a Hypnotic.—Dr. von Mering read a paper, at the recent meeting of German philosophers at Eisenach, on the value of acetal as a hypnotic (*Berliner klin. Woch.*, October 23). Acetal is a volatile fluid of ethereal odor, sparingly soluble in water, though some of its derivatives are very soluble in alcohol and water. Experiments were made on frogs, rabbits, dogs, and cats. Acetal first acts on the cerebrum, causing gradual loss of consciousness; it then paralyzes the functions of the spinal cord and medulla oblongata, stopping the breathing before arresting the action of the heart. The drug has been administered subcutaneously, by the mouth, and by intravenous injection. Asphyxia, or rather apnœa, was the cause of death when that result ensued. It is remarkable, says the author, that such bodies as alcohol, ether, paraldehyde, acetal, and several other bodies not containing chlorine, act primarily and more powerfully on the respiratory centre; whilst after the administration of such substances as chloroform, chloral hydrate, and bichloride of methylene, the circulation and respiration are pretty equally affected. Eight experiments only with acetal have been made on men; six times there was a notable effect, both in the relief of pain and the procuring of sleep. Further details are promised.—*Medical Times and Gazette*, Nov. 11, 1882.

A Theory as to the Unity of Origin of Rheumarthritis, Carditis, and Chorea.—Mr. William Stewart gives the following as a *résumé* of his theory:

1. Follicular tonsillitis, by the process of mild inflammation, originates the discharge of altered white blood-corpuscles through the follicular openings on the tonsils. 2. These, or others in the tonsils not extruded, are re-absorbed into the blood by the lymphatic vessels through the glands at the angle of the jaw. 3. By the initial inflammation, the white blood-corpuscles are deprived, to a certain extent, of their normal physiological qualities; and to the same extent as they have been devitalized they acquire pathological properties, by virtue of which they have an intensified tendency to adhere to the inner walls of the capillaries and to one another, and also to pass through the capillary walls into the connective tissues, and there form deposits. 4. They in this way become pathogenetic cells, and produce disordered nutrition and perverted functions in those organs in which they are interrupted or extruded, and thus establish the phenomena of disease. 5. These devitalized cells are revitalizable, and therefore the diseases which they produce as a rule terminate in recovery. 6. This theory explains the altered blood-condition observed in these affections, which is established by repeated absorption of cells or by the individual cells communicating to other cells they meet in the blood the same impress which they have already received. 7. It accords with the apparent origin of rheumarthritis from damp and cold, and of chorea from fright, by according to them the power only of acting as exciting causes. 8. It does away with the necessity of a causal connection between any members of the group; and, finally, that it explains, in a rational and probable manner, the known clinical connection between, and the morbid anatomical conditions existing in, the various diseases of the group.—*British Medical Journal*, November 11, 1882.

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DEATHS FROM CHLOROFORM.

OUR esteemed contemporary, the *Virginia Medical Monthly*, in its issue for last month, contains the record of a case of death from the administration of chloroform as an anæsthetic. The report is made by Dr. Hunter McGuire, and is characterized by the fidelity to truth, which any one, who has any knowledge of his good qualities, must expect from this distinguished surgeon. The account is very circumstantial. Whilst Dr. McGuire sat with his finger on the pulse, the inhalation proceeding, "the pupils of both eyes slowly dilated to two or three times their natural size." Dr. McGuire, probably somewhat startled, "spoke to her, and she answered intelligently," but as she spoke "the pulse suddenly stopped; it did not flutter and gradually fail, but abruptly ceased . . respiration continued for some seconds after the pulse ceased beating at the wrist." Dr. McGuire attributes the sudden cessation of the circulation to "cardiac paralysis." It is not often that the attendant phenomena are so coolly and dispassionately observed as they were in this instance; hence the case has peculiar value as an illustration of one mode of dying from chloroform. Preliminary examination of the heart and lungs disclosed no signs of disease of these organs. "About one drachm of Squibb's chloroform" was first poured on the towel, and the inhalation had proceeded about two minutes when the heart was paralyzed.

Dr. McGuire has operated under chloroform narcosis and has administered this anæsthetic, in all some thirteen or fourteen thousand times, without accident, except in one case, where the fatal result may have been fairly attributed to other causes. We may, therefore, assume that all the usual conditions had been faithfully observed, and that the inhalation was conducted with strict attention to the necessary details. Yet within five minutes after commencing the inhalation the patient was dead.

What is the lesson of such a death from chloroform? In the absence of any apparent cause what is the explanation of this untoward result? There are two elements of prime importance. First, the mode of inhalation. We have more than once in these columns insisted on the danger incurred by the administration of chloroform in the mode pursued in this instance. We are perfectly well aware that no method of administering anæsthetic vapors is more common. A towel converted into a cone having an opening at the apex is the usual inhaler employed. The chloroform poured into the interior of the cone is rapidly vaporized. In the case of Dr. McGuire, the cone was not at once applied to the mouth and nose. In the language of the report it is stated, "To avoid the danger of giving the vapor in too concentrated a form, the napkin was first held several inches from the face and gradually brought closer to her mouth and nose."

The least consideration of the vapor-density of chloroform ought to satisfy any one that, given in this way, the air is almost entirely displaced by chloroform, and hence, notwithstanding that the towel-cone is held some distance from the mouth and nose, for the most part chloroform-vapor must necessarily be inhaled for much of the time. As the proportion of chloroform-vapor to air should be not more than three or four per cent. to insure the safety of the inhalation, it is obvious that this canon is violated when the manner of inhalation is practised as in Dr. McGuire's fatal case.

In our comments on another recent case, that of Dr. Kinloch, of Charleston, we insisted on the observance of that maxim which, in the case of chloroform-vapor, requires a proper admixture of air. In the usual methods now employed for the inhalation of this agent, too little attention is paid to this point. Chloroform is either poured on to the interior of a cone made from a towel, or is dropped on a cloth laid over the patient's mouth and nose. In either case the patient first inhales almost pure chloroform-vapor, and hence the cardiac motor ganglia are quickly acted on, and in this way may be explained the sudden access of cardiac paralysis.

The second element which may serve to explain the unfortunate result in Dr. McGuire's case, is idiosyncrasy. There may have been some original susceptibility to the action of the anæsthetic. The absence of any cardiac and pulmonary lesion, proves that the fatal result must be attributed either to the sudden overwhelming of the heart by undi-

luted chloroform-vapor, or the existence of a peculiar susceptibility which renders any considerable quantity of the anæsthetic, itself, dangerous.

The final consideration is, what anæsthetic is least dangerous under ordinary circumstances? In the face of so many untoward results from chloroform, are we not bound by every consideration, professional or moral, to use ether, which is unquestionably a less dangerous if not as agreeable anæsthetic? This is the more true, since even in the hands of such able and judicious surgeons as Dr. McGuire and Dr. Kinloch, accidents will occur from the use of so unsafe an agent as chloroform.

As we close the remarks on Dr. McGuire's case, the *Nashville Journal of Medicine and Surgery*, for November, comes to us, having for its first article a case of "Fatal Chloroform Narcosis Administered in the Operation of Teeth Extraction." The anæsthetic was administered by Dr. J. F. Byrn, of Murfreesboro, Tenn., and the extraction of teeth was done by Dr. Hartman, the dentist. Mrs. Smith, the subject, was aged 30, and was the mother of five children. She had taken chloroform several times before, for the same purpose, without any unpleasant symptoms. Dr. Byrn and Dr. Hartman tried to dissuade her from her purpose, and represented the danger of the proceeding—the especial danger—since the extraction of teeth under chloroform had been the cause of death in numerous cases. She, however, persisted in her purpose, and took her place in "the operating chair"—a nearly upright position. Dr. Byrn placed a quantity, estimated at two drachms, "on a folded towel," and the inhalation proceeded, Mrs. Smith passing quickly into unconsciousness. Two teeth were extracted, and as the operator was about to seize the third it was observed that "her respiration was becoming embarrassed, and her eyes were open, fixed, and staring." The usual steps were taken to avert the fatal result, but without avail.

There are several very important considerations involved in this case, and as medical journalists it is our duty to utilize them to point an obvious moral. Before giving the anæsthetic the poor woman was warned of the danger, but was this sufficient? Recognizing as they did the enormous danger of the procedure, ought not the physicians to have declined to administer this anæsthetic? A resolute adherence to a right position would most probably have saved a human life.

The mode of administering the chloroform, on a folded towel, so held as not to permit free dilution with air, is that which we have shown to be especially dangerous, and in this case we have an additional illustration of the truth of this assertion. Mrs. Smith, although calling for more chloroform, passed promptly into the anæsthetic state, because she inhaled nearly pure chloroform vapor. She passed the danger point due to the first impression of the chloroform vapor on the cardiac ganglia. To what then must the death be attributed? It has been abundantly demonstrated, that operations in the domain of the fifth nerve, under chloroform narcosis, are peculiarly dangerous. The reason is obvious. The nucleus of the fifth and the nucleus of the pneumogastric lie in close juxtaposition, and intimate reflex relations, if not direct commissural connections, subsist between them. The impression made on the end organs of the fifth, in tooth extraction, exert a powerful stimulant effect on the inhibitive function of the pneumogastric. Such is the mechanism. It is readily illustrated on a rabbit. If placed in a Czermak's holder, and a needle having a paper flag attached to its outer extremity, is thrust through the walls of the chest into the muscular substance of the rabbit's heart, the movements of the paper flag will indicate the heart's movements. Chloroform vapor must be very cautiously administered, and when sensibility is induced, some irritation, as drawing a tooth, must be suddenly applied to the jaw; the heart is immediately stopped.

The danger of tooth-drawing under chloroform anæsthesia being so pronounced, and so readily explained, we hold that no physician is justified in encountering such risks. Any one happening to such a terrible accident, in the face of the abundant warnings, must ever afterward experience keen regrets.

"Those wounds heal ill that men do give themselves,"

says Shakespeare.

The usual means of restoration, we remarked above, were employed, but one of these expedients, we hold, is not justifiable. We refer to the hypodermatic injection of brandy. We observe in the accounts of such accidents an increasing use of the subcutaneous injection of some form of alcoholic stimulant. As chloroform and ether are derivatives of alcohol, and belong to the same group—the cerebral sedatives—it is certain that they closely correspond in their effects on the intra-cranial organs. To throw whiskey or brandy under the skin, in cases of anæsthetic depression due to chloroform or ether, is adding fuel to the flame. The best mode of treating the dangerous symptoms arising during anæsthesia is too important a topic to be considered here. We may at some future time set forth our views in a special article.

HEALING BY FAITH.

An age of disbelief is diversified by a return to miracles. The evangelists, Barnes of Kentucky, and Simpson of New York, are now demonstrating that miraculous interposition, supposed to have

ceased with the era of primitive Christianity, has again returned to the earth. If only faith be sufficient, all maladies are cured by prayer and the anointing with oil, say these teachers. Their words are proved by their works. In the same way, many a decrepit and sick pilgrim, repairing to the sacred spring of Our Lady of Lourdes, is miraculously healed. Those scoffing unbelievers who laugh over these evidences of healing, have little conception of the remarkable results which may be achieved by an unquestioning faith. It is, however, a necessary preliminary, that those who seek to be cured shall have an absolute conviction that the means are adequate to the end. If this faith be wanting, the effort at cure, no matter how zealously made, will fail. When we come to examine the list of cases thus miraculously healed, we find that they consist, for the most part, of nervous and hysterical maladies. In the *New York Tribune*, of November 19, there is given a list of those cured by Mr. Simpson. They are examples of aphonia, of pains, of paralysis, of useless joints, etc., which all practical physicians know to be of neurotic or hysterical origin, and curable by a strong mental impression of some kind. How desirable soever it may be to have the power to produce miracles revived on the earth, it is quite clear that these evangelists have done no more than is daily accomplished by those peripatetic medical charlatans who cure by "laying on of hands." They have not accomplished more difficult feats than that Massachusetts doctor who cures by prayer without fees, but who has built up a great establishment as a testimony to his powers. To him not long since a lady with heart-disease (valvular) repaired, full of faith that his intercession in her behalf must succeed. On learning the nature of her case, he gravely shook his head, and said, "in his experience, the Lord rarely interfered in such cases."

Sir Humphry Davy, when a young man, had an experience which serves to illustrate the nature of healing by faith. Davy was employed by Dr. Beddoes, who had an extravagant theory of the curative power of oxygen, to administer the gas to certain patients. Amongst those who came to be treated was a paralytic. Before beginning the inhalation, Davy placed a thermometer under the patient's tongue, to record his temperature. The man was much impressed with this, and declared with great enthusiasm that he was already much relieved. Seeing the extraordinary influence of the man's imagination, Davy did nothing more than gravely place the thermometer under his tongue, from day to day, and in a short time he reported cured.

Those of our readers interested in this question—and what physician is not?—will find an excellent summary of our existing knowledge in Tuke's work on the *Influence of the Mind over the Body*. Here are recorded, amongst other curious examples of mental influence, the remarkable miracles performed during the first part of this century by the priest-Prince Hohenlohe, which equal the deeds done by our contemporaries, Barnes and Simpson. Doubtless, in all ages, especially in troubled states of society, and during times of pronounced unbelief, there have risen up teachers pervaded by such profound convictions as to impress all about them with a belief in their possessing supernatural powers in the cure of disease. In making these statements we wish merely to express our theory that these evangelists accomplish their results through agencies well known to the medical profession, and, in common with most believers, we hold that the age of genuine miracles has passed. Our comments on the work of contemporary evangelists are intended merely to impress our readers with the physiological aspect of these miraculous cures, and we are, therefore, not in sympathy with those who distrust the results achieved by the influence of faith and prayer. Indeed, from our point of view, we hold that Barnes and Simpson are, in a limited sense, engaged in a work of utility quite irrespective of theological considerations, since they are unquestionably curing a certain class of cases through a strong mental influence. At the same time, there is always danger in such cases that the enthusiasm aroused by supposed miracles will degenerate into delirium.

There is yet another medical question connected with these periodical outbreaks of religious fervor. We have read the history of moral epidemics to little purpose if we have not recognized the injury done to the nervous system of those subjected to the enormous strain of an all-pervading religious enthusiasm. The attacks of chorea, of epilepsy, of mania, which follow in the wake of extreme religious excitement are known to all practical physicians. It becomes the duty, therefore, of the medical profession to restrain, as far as may be in their power, the injurious influences of religious excitement, whilst refraining from interference in all healthy spiritual development.

AN IMPORTANT CHANGE IN THE STRENGTH OF OPIUM AND ITS PREPARATIONS IN THE NEW PHARMACOPŒIA.

IN the number of the *Ephemeris of Materia Medica* for November, Dr. Squibb calls attention to the change in the strength of medicinal opium and its preparations effected by the Pharmacopœia of 1880. The notice is timely, for no other drug, perhaps, is so constantly used, and no other one certainly vies with it in importance as to definite, constant, and known strength. To state it briefly, *the strength of all these preparations is increased about 50 per cent.*

The Convention directed that "in liquid opium preparations, excepting paregoric, the strength of 10 per cent. shall be adopted if deemed advisable." This has been done, and on page 454, in a "Table exhibiting differences of strength," the consequent increase of 10 per cent. is stated. But so misleading is this statement that as accomplished a pharmaceutist as Dr. Squibb himself, while revising the proof-sheets of the Pharmacopœia, overlooked the fact that the *strength* of opium itself, as well as the *percentage* contained in its preparations, has been increased and thus adds about 40 per cent. more to the strength of the opium preparations. As Dr. Squibb shows, the change is a judicious one, and in the direction of accuracy, but we are surprised that prominent notice of the fact has not been given in the Pharmacopœia.

Surely not only this should have been done, but a much greater uniformity in the preparations of opium should have been insisted on. The Pharmacopœia prescribes that in making them an opium assaying "not less than 12 nor more than 16 per cent." shall be used—a difference of 33 per cent! This will give with a 12 per cent. powder 5.44 grains of morphia to the fluidounce, and with a 16 per cent. powder 7.25 grains. Why should not other chemists be able to fix a *definite* standard, as Dr. Squibb has done, and make the liquid preparations of opium contain 6 grains of morphia, the alkaloid (that is, 7.5 grains of sulphate of morphia), to the fluidounce? Or, rather, why should not the Pharmacopœia itself do this?

Dr. Squibb suggests, and it should certainly be followed, that hereafter, in prescribing these liquid preparations, the figures "1870" or "1880" be added to show which preparation is desired. It is of the utmost importance that both the profession and the public understand the change. If not, we must face the possibility of accident through entire ignorance, but for which the courts will properly hold us responsible. We hope the lay press also will assist in diffusing a knowledge of the change.

THE JOHNS HOPKINS UNIVERSITY.

OUR Baltimore correspondent calls attention in another column to the completion of the new biological laboratory, and to a most important question in connection with this splendid University endowment. Shall the Medical School enter the lists to compete with the unendowed schools all over the land in turning out doctors of ordinary education, or shall it devote itself, as it alone has the means of doing, to the higher medical teaching only, and give us thoroughly educated scientific men, students who are competent to engage in original research, and men fitted to fill professorial chairs?

Were the answer of local consequence alone we should not allude to it, but this is a University which is peculiarly of national importance, and is fortunately hampered neither by statute nor tradition. We have already ten medical schools where one would do, as we showed some weeks ago. Another of the same class would not only be a superfluity—it would be a calamity.

Great Britian has just started an "Association for the Advancement of Medicine by Research." Johns Hopkins University can perform precisely the functions of such an association in this country, and a great deal more. Its endowment, its hospital, its laboratories, its equipment, above all its able and distinguished President and Faculty give assurance of what its students ought to be, and what we hope they will be—competent, thorough, laborious, and distinguished.

Those who are charged with the execution of this munificent trust now have it within their power to create a school in which can be had such an education as is now unattainable on this continent, and from the lack of sufficient endowment is beyond the scope of any of our existing medical schools. We trust that this grand opportunity, which appears to have been part of the design of the founder, will be embraced by his trustees. The John Hopkins University will then supplement the existing medical schools and will have the whole country for its field of benefaction.

DR. AUSTIN FLINT, of New York, delivered in this city last Saturday evening, the first of his course of three lectures before the Philadelphia County Medical Society, on the physical exploration of the lungs by auscultation and percussion, before a medical audience such as has not been seen in this city for many years. Although the subject was one about which there was not an atmosphere of novelty, yet it was so freshly and suggestively treated by the distinguished clinician, that all felt that the evening had been of profit as well as pleasure.

The lectures will appear in these columns at an early day.

GOVERNOR-ELECT PATTISON will have one officer to appoint in whom the medical profession of this city have a deep interest—the Health Officer of Philadelphia, and we hope that Mr. Pattison will rise above party traditions and follow the indications of a true civil service reform.

Mr. John E. Addicks, the present incumbent, has been Health Officer for a number of years, and has the familiarity with his duties which only long experience can give. He is an efficient officer, courteous, and yet bold and prompt. Not a word of suspicion have we ever heard against his entire integrity. Although he is a Republican, we hope

that Mr. Pattison's civil service reform views will prompt him to retain such a capable officer. By so doing he will gratify many Republicans who voted for him, and all of both parties who are sincere reformers.

We notice with satisfaction that the Court of Special Sessions in New York has fined a number of dealers in sums of from fifteen to one hundred dollars for adulterating the milk they were selling.

Milk is so important an article of food, not only because it enters so largely into the food of adults, and especially of infants, but because disease, as is now well known, is so readily and so certainly carried by milk, that its purity should be most carefully looked to. It is more than a mere question of money, it is often one of life and death. Would that other cities had as stringent laws and as efficient sanitary inspectors as New York.

REVIEWS.

CLINICAL SURGERY. EXTRACTS FROM THE REPORTS OF SURGICAL PRACTICE BETWEEN THE YEARS 1860–1876. By DR. M. BILLROTH, Professor of Surgery in Vienna. Translated and edited with annotations by C. T. Dent, F.R.C.S., etc. With plates. 8vo. pp. xx. 518. London: The New Sydenham Society, 1881.

THIS volume is not to be mistaken for a systematic treatise on surgery; it is a collation of reports of clinical experiences of Dr. Billroth, during a period of sixteen years. But it is not a mere collation of these reports. They have been edited and rearranged so as to group cases of a like kind, and notes have been added by the translator, so that the reader is presented with not only what Billroth thought and did in years gone by, but also his belief and practice at the present day.

The translator has thus enhanced the value of these reports above that which they possessed in the original. He has also judiciously suppressed the mass of statistics with which the latter were burdened, citing Billroth's own remark: "Statistics, like women, are a mirror of purest virtue and truth, or public prostitutes to be put to any use one may wish." He has also added a useful index and reproduced ten extremely interesting and well-executed full-page plates, illustrating the context.

It would be impossible, within the limits we can spare, to give any idea of the wealth of experience this book lays before the reader. It is only possible to commend it as a mine from which the practical surgeon can dig out something of value upon almost any conceivable subject in surgery.

FISTULA, HEMORRHOIDS, PAINFUL ULCER, STRICTURE, PROLAPSUS, AND OTHER DISEASES OF THE RECTUM: THEIR DIAGNOSIS AND TREATMENT. By WILLIAM ALLINGHAM, M.D., F.R.C.S., etc. Fourth revised and enlarged edition. With illustrations. Large 8vo. pp. viii. 167. Philadelphia: P. Blakiston, Son & Co., 1882.

AFTER one has gazed at each member of the long title of this well-known work, is it a relief or a disappointment to discover that the "other" diseases of the rectum hinted at are but impaction of feces, cancer, and neuralgia? Let each reader decide for himself; we at least find it a relief. For, setting aside for the moment the value of the author's opinions, and regarding only his literary style, we are thankful that his ambition rose no higher, nor diffused itself over any more widespread field. And, if we fix our mind rather, as we ought, upon the value alluded to of the author's opinions, we can still feel no regret that it is possible to get at them all without stumbling over any more rough and stony literary obstacles than are here scattered about.

The author needs no commendation, nor need he fear any fair criticism of his matter, for he speaks from a long and well-digested experience. He is a recognized authority in regard to the subject of this book. So we do not address ourselves to this feature of it, but we do criticise its style, not in any captious spirit, but because we think too little attention is paid, now-a-days, to this part of authorship among medical writers. It is not enough that an author shall serve his readers with good fare, he must e'en serve it handsomely, or he shall not escape our complaint.

SOCIETY PROCEEDINGS.

SUMTER COUNTY (ALA.) MEDICAL SOCIETY.

Stated Meeting, October, 1882.

J. N. GILMORE, M.D., PRESIDENT, IN THE CHAIR.

(*Specially reported for* THE MEDICAL NEWS.)

DR. E. H. SHOLL, of Gainesville (appointed at a previous meeting for this purpose), introduced as a subject for consideration,

CINCHONIDIA.

After a very large practical experience in the use o cinchonidia, he was prepared to say that it fully met his expectations as to its *antiperiodic* and *antipyretic* effects; that he relied on it in the gravest cases with as much dependence as on quinia, and in the same doses. He detailed his experience with it in a very severe case of double pneumonia in a negro man, where its prompt and decided antipyretic effect, in doses of twenty-five grains each morning, was marked, and contributed to the favorable termination; reducing the temperature in three days from 105° to 99°. From its effects in this case he was led to believe it possessed also, in a high degree, the antipyretic property of quinia.

He had also used it hypodermically, in solution by boiling water, and by means of tartaric acid, as recommended by Dr. Sawyer, of Whistler; but with every care in making the solution and in its administration, he had, while readily getting its constitutional effect, produced sloughing in every case.

Quite a number of the members present had used cinchonidia successfully in their practice, though they had not relied upon it to the extent of Dr. Sholl; using it in the milder attacks, and where it was desirable to consult economy.

DR. WEBB had used it frequently in the usual forms of malarial fever, but had never used it hypodermically. For a number of years he had used in this way either the bromide or sulphate of quinia, without having produced ulceration. His method of preparing the sulphate for hypodermic use, was that recommended by Dr. George Kumpè, of North Alabama. He dissolved sixty grains of sulphate of quinia in one ounce of distilled water by slowly adding dilute sulphuric acid until the solution was clear. To remove any excess of acid he then added five or ten grains more of quinia. This was then passed through a

double filter, which removed all the undissolved crystals of quinia, and gave a clear, *neutral* solution. He had frequently used the sulphate prepared in this way without any unpleasant local effects.

THE PREVAILING CONTINUED FEVER.

DR. SHOLL then gave his views of the nature and treatment of the *continued form of fever*, which has prevailed for the past two or three years in Sumter and other parts of the State. He regarded it as typhoid fever proper; the enteric fever of Dr. Wood and other writers. He had in a number of cases used very successfully, the treatment recommended by him in a paper read before the Medical Association of the State of Alabama, at its meeting in Mobile in April, 1882, entitled "A Proposed Method of Abbreviating the Duration of Curable Cases of Typhoid Fever." His plan was, when meeting a case of suspected or recognized typhoid fever, to give (more properly and hopefully during the first ten days) at once to an adult, forty drops of laudanum per orem, or its equivalent of morphia hypodermically, and follow in one hour with forty grains of ipecac. This dose was administered twice in twenty-four hours, diminishing the dose daily, when the symptoms were more favorable, or discontinuing it, if it failed to produce the desired effect. So far its results have been very happy when tested with parallel cases in the same house under different treatment. The unpleasant symptoms being greatly ameliorated from the beginning of this treatment, and the *duration* of the attack having been brought down in cases which seemed threatening, to seven or ten days; and not prejudicing the results where other treatment was afterwards required.

In those cases in which this plan of treatment did not prove speedily successful, in which the fever continued into the third or fourth week, assuming a more adynamic type, he had used, with good results, the iodide of potassium. He gave it in conjunction with the syrup of lacto-phosphate of lime, four grains of the former to a tablespoonful of the latter, every three or four hours, to which, on the suggestion of Dr. Moody, of Pickens, he had latterly added two drops of carbolic acid, as an antiseptic.

As to the nature of typhoid fever, he was not satisfied to accept the theory of a specific germ, or bacteria, as the sole cause. He had been unable to trace the present epidemic to any foreign source. Impure drinking water, in one instance the constant effluvia of rotting cabbages, the washing of the soiled bedding in another, and the inhalation of the odor of excrement, were deemed sufficient cause for the origin of this disease as seen by him, which, through its soiled linen and foul excreta, transmitted to others what was essentially and only a pure typhoid fever, and whose further ravages in two families was stayed by change of drinking water.

DR. R. D. WEBB, of Livingston, was not prepared to fully admit that the continued fever prevalent in this county, designated variously as continued malarial fever, typho-malarial fever, and typhoid fever, was typhoid fever (enteric fever of Dr. Wood). The variety of names by which it is designated shows the unsettled state of medical opinion as to its real character. Its prevalence in Sumter and other parts of Alabama gives it, to us, a local interest, independent of the etiological and pathological features which it involves. His observations upon the fevers of this county, extending over a period of thirty years, had left doubts upon his mind as to its character.

The changes in type which fevers have undergone in this county from its settlement in 1832–33 to the present time, are well known to all who have practised here for any considerable time. The severity of the cold stage, shortness and high grade of the fever, and subsidence with profuse perspiration and long intermissions or decided remissions, were characteristic of the fever of that day. These symptoms have gradually changed, until now the cold stage is hardly perceptible, the fever protracted and of low grade, the remission very short, and the profuse perspiration has dwindled to a mere moisture of the surface. From this to *continued malarial fever*, with its morning remissions, was but another step in these changes. He here gave a clinical analysis of several cases, with bedside notes, and charts of temperature and pulse, of several cases of what he regarded as continued malarial fever, and called attention to the difference of the phenomena in these and in a true typhoid fever.

In the prevalent fever we have a moist, broad tongue, coated with a white fur, rarely becoming, even in the severe cases, red, pointed, dark or dry; severe bilious vomiting in the outset of the attack; constipation, as contrasted with diarrhœa; flat abomen, and absence of tympanites, and tenderness over iliac region; absence of the rose-colored spots; too great a range in temperature curve, and decided indications of hebdomadal periods which corresponded with the well-known habit of recurrence of malarial fever at the end of the seventh day and its multiples.

Post-mortems in several cases revealed only an hyperæmic condition of the mucous membrane of the intestines, particularly of the ileum, with enlargement of the solitary glands or prominences of the follicles of Lieberkuhn.

In one case he had found ulceration of Peyer's patches, but from the circumstances of the origin of this case, being one of ten others in a local epidemic, evidently due to the unsanitary condition of an adjoining badly drained lot and filthy slaughter-house, he was disposed to regard this also as malarial fever. Pathological observations show that Peyer's glands are often ulcerated in other diseases than malarial fevers. They are from their structure—"solid aggregated masses of nuclear particles"—very liable to enlargement and ulceration, and we may reasonably expect them to be found ulcerated in any disease in which we have a hyperæmic condition of the mucous membrane of the intestines. Hence the ulceration of Peyer's patches is not to be regarded as pathognomonic of typhoid fever.

The question of the etiology of typhoid fever is also involved here. Does it originate, as implied in the remarks of Dr. Sholl, from unsanitary surroundings, *de novo*, or must we have the pre-existing ovum—the *contagium vivum*—introduced from a previously existing case which finds its congenial nidus for propagation in these unsanitary surroundings?

The question is one of vital importance. His observations and studies had led him to favor the view of a previous ovum. The epidemic of typhoid fever which prevailed in this county from 1845 to 1855, which exhibited in a marked degree the characteristic phenomena of typhoid fever, was well known to be due to importation from Virginia, by a company of negroes brought here for sale. So far as he had been able to determine, no such foreign origin could be found for the present fever. Upon the other hand, it occurred sporadically in isolated cases in every part of the county and State, wherever malarial fever prevailed, and did not exhibit any evidences of a contagious nature.

Nor was he disposed to regard the fever as seen here as a hybrid of typhoid and malarial fevers. The possibility of such a hybrid he did not deny; but did not see the evidence of it here. It is, as already pointed out, deficient in the characteristic phenomena of typhoid fever, and if a hybrid, these should be fully manifested, at least in the latter stages.

It presents, so far as his observation goes, nothing of the specific and contagious nature of typhoid fever, but upon the other hand, occurs in isolated cases where none but a miasmatic origin can be traced, which points to its being *endemic* and malarial. The symptoms, or peculiar type too, are satisfactorily explained upon the hypothesis of the changed type of malarial fevers, and hence he did not see the necessity of calling in a new name or fever.

His treatment had been based upon his views of the nature of the fever. At the outset a mild purgative of calomel, and later in the disease enemeta, or laxatives when the bowels need moving. Quinia in the first week, to interrupt as far as possible the paroxysmal character of the fever, and later in the attack, at the hebdomadal periods, for its anti-paroxysmal and anti-pyretic effects. He did not, however, give it in the large doses of some, for its decided anti-pyretic effect, believing that the nervous system was in too irritable a condition to bear these depressing doses. He rarely gave more than thirty grains in twenty-four hours, and preferred giving this in divided doses, of five grains each. He relied mainly upon sponging the surface with cold water to reduce the temperature. He also in the second week, gave salicylate of sodium, tincture of iodine, and carbolic acid. If the tongue was disposed to be dry, and there was tympanites, he used internally spirits of turpentine, and also used it externally over the abdomen, by embrocation or as a stupe. In cases where the pulse was rapid and firm, he used tincture of veratrum viride.

DR. GILMORE, of Gaston, had abandoned the idea of a hybrid, or typho-malarial fever, and was disposed to regard the prevalent fever of our county as continued malarial fever.

DR. J. M. GODFREY, of Sumterville, did not think he had met with typhoid fever since 1860, and was also disposed to regard the prevalent fever as a *malarial fever*.

DR. SHOLL then alluded to the

TREATMENT OF DIPHTHERIA.

He urged a careful test of the following method, which he had now used in fifty cases, with a mortality of three, and believed it to come as nearly as any thing could be to meeting the urgent requirements of these cases.

To an adult he administers twenty drops of liquor potassæ every three hours in half a glass of water. Half-way between each dose he gives one to two tablespoonsful of syrup of lacto-phosphate of lime. Proportionate doses are given to children. He uses no local application to the throat internally. Externally he uses bacon rind freely and often applied to the swollen throat, and if the temperature is high, to the whole body. He desired the members to give this treatment a careful practical test.

DR. R. D. WEBB believed there were good grounds for regarding diphtheria as having local origin from a specific bacteria, which specially found its nidus in the membranes of the throat. The disease was thus first local, and afterwards became constitutional.

Hence in treatment he used locally, in the early stages, the following:

℞. Tinct. of iodine, ... ʒij.
Carbolic acid, ... ʒij.
Glycerine, ... ʒiv.—M.

S. Apply to the tonsils and fauces once or twice a day.

He also used, locally, in the form of spray or steam, a 2 to 5 per cent. solution of carbolic or salicylic acid. Internally he used liquor potassæ, as recommended by Dr. Sholl, with the addition of tinct. mur. ferri, and chlorate of potash.

Under the call for "Report of Cases," DR. J. M. HENSON, of Brewersville, reported a case of

PURPURA HEMORRHAGICA,

in a young lady of twenty years, who did not seem to be suffering very much constitutionally. It had continued three weeks, when an acute exacerbation of fever supervened, with jaundiced (orange-yellow) skin, and copious hematuria. The patient died in twenty-four hours after this exacerbation of fever. Query. Was this an attack of hemorrhagic malarial fever, supervening upon the purpura hemorrhagica, or only a hemorrhage from the kidneys, and into the rete mucosum, from the hemorrhagic tendency of the patient, during the occasion of an ordinary remittent fever?

DR. SHOLL was disposed to regard the diagnosis as doubtful, but probably a combination of purpura with hemorrhagic malarial fever, a few cases of which have been seen in the County this fall.

DR. WEBB reported a

COMPOUND FRACTURE OF THE RADIUS AND ULNA.

treated by antiseptic *closed dressings*, which he saw in July last in consultation with Dr. J. F. Moore. The external wound healed kindly with but little suppuration, and the bones united in the usual time. He was disposed to give the method further trial, as he did not see why we may not in this way secure primary union of the soft parts, and make the cure more speedy, and with less pain to the patient, and less trouble to the surgeon, than by the more usual method of open dressing. He referred in this connection to two cases of compound fracture of the tibia, treated in a similar way, and also to Prof. E. von Bergmann's method of treating compound fractures of the *penetrating variety* by primary antiseptic occlusion. He did not see why we may not apply the same principle to fractures with a greater degree of laceration of the soft parts, especially in the pure air of the country. He believed, even in cases of severe laceration, the wound might be kept to a great degree aseptic, and treated with better success by this method than the open plan.

DR. SHOLL suggested the plastic splints of Koehler, which by warming may be readily moulded to fit any part of the body, instead of the plastic bandage, for these cases. They are convenient and could be readily removed and reapplied, when necessary to renew the dressing.

The lateness of the hour prevented further discussion of medical topics.

The following officers were elected for the ensuing year:

President.—R. H. ARRINGTON, M.D.
Vice-President.—J. B. HAWLEY, M.D.
Secretary and Treasurer.—R. D. WEBB, M.D.

MEDICAL ASSOCIATION OF CENTRAL NEW YORK.

Fifteenth Semi-annual Meeting, held at Rochester, November 21, 1882.

The Fifteenth Semi-annual Meeting of the Medical Association of Central New York, was held at Rochester, on Tuesday the 21st of November, the President, Dr. THEODORE DIMON, of Auburn, in the chair.

After the reading of the minutes of the last meeting, by the Secretary, Dr. J. N. Arnold, of Clyde, the following committees were appointed by the Chair:

On Credentials.—Drs. Bennett, of Livingston; Colvin, of Wayne; and Rider, of Monroe.

Business.—Drs. Kendall, of Onondaga; Jewett, of Ontario; and Hovey, of Monroe.

Reception.—Drs. Dann, of Monroe; Van de Warker, of Onondaga; and Cotes, of Genesee.

Ethics.—Drs. Ames, of Livingston; Slocum, of Onondaga; and Pomeroy, of Cayuga.

Publication.—Drs. Arnold, (ex-officio); Hamlin, of Cayuga; and Roe, of Monroe.

DR. JASON PARKER, of Clyde, then reported a case of

EXTRA-UTERINE CONCEPTION FOLLOWED BY PERITONITIS.

He first saw the case on September 24th, and the next day Dr. Smith, of Clyde, was called in consultation. The diagnosis was peritonitis complicated with cellulitis. The bowels were constipated and there was much tympanites. An enema was given on the 29th. October 1st, there was a severe diarrhœa. The case was one of unusually severe peritonitis, and was treated mainly by large doses of morphia hypodermically; ¼ grain was given every two hours. On one occasion two grains were given in an hour and a half. At another time during the treatment eight grains were given in twenty-four hours.

From October 4th to 16th the patient was doing well, and about the latter date the tympanites had nearly disappeared and the morphia was discontinued. The menses appeared October 8th. There was from the first a hard, circumscribed mass felt in the left inguinal region. The patient died very suddenly on October 17th.

An *autopsy* was made twenty-four hours after death. The abdomen only was opened. There was an unusual amount of adipose tissue. The omentum was greatly discolored and firmly adherent to the peritoneum and the intestines; the latter showed the effects of beginning mortification. The cavity was filled with clotted blood and serum. In the anterior wall of the uterus there was a fibroid tumor about the size of an orange. The right ovary and tube, etc., were normal; at the left of the uterus was a tumor which appeared to take the place of the left Fallopian tube and ovary. On attempting to enucleate the tumor it was ruptured and disclosed a fœtus of about three months.

DR. JOHN GERIN, of Auburn, presented a paper on *Abnormality of the Stomach.*

DR. CHEESEMAN exhibited a brain tumor and narrated the history of the case.

DR. F. M. HAMLIN, of Auburn, read an elaborate essay on

OPIUM SMOKING.

He described the method of preparing the watery extract, and how it was sold. He referred to the absurd popular ideas of the mode of smoking, and described the usual manner and the pipe. He considered the habit one of the most pernicious of vices, for it was not resorted to for the purpose of allaying pain, but simply for sensual pleasure. It stimulates the sexual appetite, and the habitues endeavor to draw all others into the habit. Especially is it used for the purpose of seducing young girls; and as all moral sense is perverted the most atrocious crimes are concocted while indulging in the vice of opium smoking.

He gave statistics showing the number using the pipe, and the amount of opium smoked.

DR. W. J. HERRIMAN, of Rochester, read a paper *On the Care of the Insane.*

DR. L. A. WEIGEL, of Rochester, reported a case of *Chorea Complicating Pregnancy.*

DR. J. E. CARR, of Jordan, made some remarks on

THE TREATMENT OF FRACTURES OF THE LONG BONES,

and exhibited apparatus. He claimed that by subjecting the limb to a continual extension and counter-extension for four days, the muscles would be so stretched that the fractured ends of the bone would slip into their normal position, and the limb could then be dressed in the ordinary manner, and a perfect union obtained.

DR. TOWNSEND claimed that by the aid of chloroform he could in one minute reduce a fracture as well as Dr. Carr could by his method in four days.

DR. HENRY claimed that the muscles could not be stretched, and Dr. Carr maintained that they could be, by gradual extension.

DR. E. M. MOORE stated that some years ago one of his students experimented on this subject of stretching the muscles, extensively. He procured a number of sheep, and before killing them, the tendons were carefully dissected from the region of the foot, and the muscles subjected to powerful tension. It was found that these small muscles would sustain a weight of 300 pounds before tearing, and even then the scapula would sometimes break first. Subjected to such a force these muscles would stretch about three-fourths of an inch. Dr. Moore did not believe that any ordinary force could stretch an adult human muscle.

DR. CREVELING, of Auburn, exhibited drawings of some cases of *Laryngeal Disease.*

DR. H. D. DIDAMA, of Syracuse, read a paper on *The New Factor in Tuberculosis.*

DR. JAMES CHAPMAN, of Medina, read a paper on *Supra-Condyloid Amputation at the Elbow-joint.*

The consideration of the new Code of Ethics was then introduced by Dr. W. S. Ely, of Rochester, who advocated the entire abolition of all codes. The hour being late, and many members of the Society who desired to participate in the discussion being obliged to take the afternoon train, the further consideration of the subject was indefinitely postponed.

DR. CREVELING exhibited a case of

COMPOUND FRACTURE OF THE FEMUR,

where he had sawed off about an inch of the bone above the knee. There was good union, and apparently no shortening. Dr. Moore was sceptical, and measured the limb in presence of the Association, and pronounced the shortening about an inch.

DR. J. O. ROE had a carefully prepared paper on *HayFever; its Etiology, Pathology, and Treatment.* but owing to the lateness of the hour he only gave a short synopsis of it.

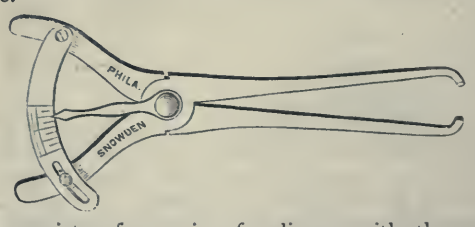
The Association then adjourned, to meet at Syracuse, on the third Tuesday in May, 1883.

NEW INVENTIONS.

THE SEPTOMETER.

BY CARL SEILER, M.D.,
OF PHILADELPHIA.

THE accompanying cut represents an instrument which I have lately devised for measuring the thickness of the nasal septum, and by means of which a differential diagnosis between localized thickening, as exostosis and deviation of the septum, can be made more readily and accurately than by inspection of the nasal cavities alone.



It consists of a pair of calipers, with the points rounded off and turned inward, the blades of which extend beyond the joint and carry a divided arc. Over

the pivot of the joint of the upper blade is fastened a hand, which when the instrument is closed points to the O mark on the arc, and moves toward the right as the points are separated. The joint is moved so easily that the slightest pressure upon the points of the blades separates them, while they are held together by a delicate concealed spring, so that when the portion of the septum grasped between the points presents any variations in thickness, as the instrument is passed up or down, the index hand travels to the right or to the left over the arc, thus indicating the position of the variations. The septometer is held by a wooden handle, screwed at an angle into the lower blade, so that the hand is below the patient's nose, and does not obstruct the view of the points, and also in order to prevent any embarrassment of the delicate motion of the blades by grasping them too tightly.

As a matter of course this intrument can be used for a variety of purposes, where it is desirable, to measure the thickness of tissue.

The septometer is made by Mr. Wm. Snowden, surgical instrument maker, of this city.

NEWS ITEMS.

BALTIMORE.

(*From Our Special Correspondent.*)

THE JOHNS HOPKINS MEDICAL SCHOOL.—The Trustees of the Johns Hopkins Hospital have, it is understood, recently determined definitely to open the hospital in 1885. There comes to the front, therefore, for the University trustees (a distinct corporation), the question of organizing a medical school which shall coöperate with the physicians and surgeons of the hospital in promoting the advancement of medical science. Such coöperation for such purpose was the express desire of the founder of both Hospital and University. It is hoped, therefore, that the medical school will not enter upon competition with other schools as to number of students, but will put its main strength to the work of giving advanced instruction to men from other schools who already possess the degree of M.D.; and that not being dependent upon students for its support, it will refuse to accept undergraduate students who cannot pass an entrance examination which shall be calculated to decide, at least, whether they have such a general education as may be expected in a professional man, and a fair knowledge of physics, chemistry, physiology, and mammalian anatomy. Such men would be ready to enter at once upon the professional study of medicine in a manner which the average medical student is not. In addition, it is hoped that the Johns Hopkins Medical School will build and support special laboratories for advanced study and research in pathology, pathological anatomy, experimental therapeutics, hygiene, etc.; and so contribute to the advance of medical science in the United States; this was certainly what Johns Hopkins wanted it to do.

THE NEW BIOLOGICAL LABORATORY OF THE JOHNS HOPKINS UNIVERSITY now has its walls completed, and will very shortly have its roof on. Internal fitting up will, however, occupy a considerable time, so that the biologists hardly expect to move into it for some months to come.

The building is of Baltimore pressed brick, with trimmings of bluestone, and is remarkable for the number of its windows. The architect grumbled somewhat at these, as impairing the beauty of his original design; but Prof. Martin insisted that a laboratory should be built like a factory, with just enough wall between the windows to carry roof and floor steadily, and the trustees supported him. The aspect of the building, so far as can be judged at present, shows that the architect's fears were groundless; it has not only that special beauty due to fitness for its purpose, but is (apart from all consideration as to its use) an ornament to the city.

The laboratory is 80 by 54 feet, and consists of a basement and three stories. Its ends face north and south, and the main entrance is placed on one side so as to avoid using up, in doors and windows, space on the north end where the best light for microscopic work was to be obtained: entry from the south was not practicable. The basement is well lighted, so that the rooms in it are available for work-rooms; and, as the building will be heated by hot air supplied from the neighboring chemical laboratory, but little of the basement space is taken up by heating apparatus.

The building is designed to provide for undergraduate students desiring to obtain a thorough practical knowledge of the elements of botany, comparative anatomy, physiology, and histology. Also to afford accomodation for a smaller number of advanced workers in botany, and (in connection with the marine laboratory of the University) for advanced students in comparative anatomy and embryology; but, in view of the fact that the University will soon have a medical school connected with it, very special opportunities have been provided for advanced study and research in animal physiology and histology.

Without going into details, the general arrangement of the building may be briefly described as follows: In the basement is an engine-room, containing also a cremation furnace for organic débris. The engine will work an elevator running from basement to top-story, and will probably be also employed in connection with a dynamo, to supply energy for running the various recording instruments, and for providing electric light in the photographic and histological rooms. The basement will also contain a room fitted up for work in chemical physiology, one for gross dissections and for post-mortems on the animals used in researches; a storeroom for chemicals, glassware, etc.; a battery-room, from which wires can be carried all over the building through special passages leading to each floor, and wide enough to allow a workman to climb through them. In the battery-room will be placed a clock making electric interruptions once a second, and wires will be carried for chronographic purposes from it to any desired part of the building.

The first floor is mainly occupied by a general laboratory for undergraduate work. It also has a lecture-room which will seat about sixty students; a storeroom for diagrams, lecture apparatus, and specimens; an assistant's private room; and a workshop to be fitted up with lathe and carpenter's bench, a glass-blower's table, etc.; in this latter room the laboratory mechanic will have his headquarters.

The second floor will contain a biological library provided with standard works, and the current journals, and proceedings of learned societies from all parts of the world. This room will also be used for drawing figures of specimens and apparatus, and will contain tables specially fitted up for that purpose. On the second floor are also located a small lecture-room, an assistant's room, a laboratory for advanced workers in botany; a similar room for post-graduate work in comparative anatomy; a small museum containing selected animal and vegetable types; and a room for photographing with southern exposure and arrangements for using the heliostat in micro-photography.

The third floor is to be devoted mainly to advanced study and research in animal physiology and histology. In addition to separate laboratories for experiments on warm- and cold-blooded animals, it will contain the professor's private room; a room for myographic experi-

ments and for work on animal electricity; a balance room; and a museum of physiological instruments and chemical preparations.

On the roof will be a small observatory exposed to direct sunlight, and available for printing off photographs, and for experiments as to the influence of solar radiation upon the physiological processes of plants and animals.

It is not proposed to have a room for gas analysis, or a combustion-room in the biological laboratory, as the recent additions to the chemical laboratory close by provide sufficient accommodation of this kind for the biologists.

The new building is calculated to provide ample accommodation for about fifty undergraduate workers, ten advanced students in botany and comparative anatomy, and about twenty advanced workers in animal physiology and histology.

NEW ORLEANS.

(*From our Special Correspondent.*)

Health of New Orleans.—This city has enjoyed a rather remarkable exemption from sickness during the past season. The overflow of the Mississippi in the spring has been followed by intensified malarial diseases in many parts of the valley, and by dysentery in some parts of the overflowed districts. It is true, however, that some portions of the inundated regions have been exempt from all forms of disease not usual to them. The proper explanation of this apparent difference in effect is due to the accidental circumstances affecting the various localities. First, wherever the currents produced by the escaping waters swept the surface, no sickness was likely to ensue. Second, wherever very deep deposits were formed, the circumstances were not favorable to the evolution of malaria. But, third, wherever slight deposits occurred from the stagnant water, violent malarial diseases have prevailed.

New Orleans has not been afflicted with malarial diseases to as great an extent as usual. The same statement is true with regard to yellow fever. Some four or five cases of this disease have occurred during the summer, but no epidemic has resulted. As yet, there is too little known about the essential nature of the yellow fever poison to justify any declaration in regard to the failure of the disease to spread, after having been introduced into this city. It is true, that the locality in which the first cases appeared was inhabited by persons for the most part acclimated by having had previous attacks of the disease. But it can be safely asserted that there is no part of the city, which cannot furnish enough material to set an epidemic going, provided precautions be not taken to prevent its spread. The efforts of the State Board of Health to stamp out the disease, and, probably more than all, the efficient co-operation of the auxiliary Sanitary Association may have had something to do in arresting the spread of the disease. People are apt to talk a good deal about a yellow fever condition of the season, or atmosphere, or some other surrounding, which they are not able to define. There is nothing known peculiar to this season in New Orleans, and certainly nothing which should differentiate it from the conditions in Pensacola in any particular manner.

Pilocarpine in the Treatment of Hydrophobia.—A case of hydrophobia has just terminated fatally in this city, and the treatment presents something of interest. A man, aged about 40 years, had been bitten nearly six months before the attack. His physicians began the treatment with the exhibition of pilocarpine subcutaneously administered. The doses were only one-tenth of a grain each, and repeated from two to four hours. Most profuse salivation resulted, associated with drenching diaphoresis and notable diuresis. The patient's symptoms were not in the least mitigated; on the contrary his medical attendants assert that his thirst was so greatly aggravated that they deplored the use of this drug, since it seemed barbarous to excite thirst in a man who is utterly unable to relieve the sensation. They are all unanimous in declining to countenance further experiments with this proposed remedy for hydrophobia.

The Medical Department of the University of Louisiana has opened its session with promise of a good class.

BROOKLYN.

(*From our Special Correspondent.*)

St. Peter's Hospital.—Dr. P. L. Schenck has been elected attending surgeon at St. Peter's Hospital, in the place of the late Dr. Lowell. Dr. Schenck was formerly for many years the Superintending Surgeon to the King's County Hospital, a patient of which latter institution undertook to assassinate him by shooting, some months since, to avenge some fancied wrongs. Happily the attempted murder failed, and Dr. Schenck has so far recovered from his wound as to be able to accept this new position.

The County Asylum for the Insane.—Dr. J. C. Shaw, Superintendent of the County Asylum for the Insane, has recently made an annual report, showing that the demands upon that institution are constantly increasing. Dr. Shaw is an earnest advocate of non-restraint. There were 1221 patients treated in the year.

King's County Hospital.—Dr. J. A. Arnold has also made a report for the King's County Hospital. He points out the urgent need still existing for a contagious disease hospital on a basis different from that now operating. At the present time all who require hospital accomodations when suffering from contagious affections are on the footing of paupers. There should be some provision made for those who are well-to-do and willing to pay for good diet and attendance, in some building apart from the County Hospital. The Commissioners of Charities are about to introduce gradually the employment of trained nurses; they have appointed fifteen such nurses at a salary of $14 per month. This is unmistakably a move in the right direction.

BOSTON.

(*From our Special Correspondent.*)

Dr. Carpenter on Human Automatism.—Dr. Wm. B. Carpenter, the distinguished English physiologist, is now delivering a course of lectures on human automatism before the Lowell Institute. The first lecture was delivered on Monday evening, November 13, and outlined the theory which will be proved on subsequent evenings. After alluding to the limits of possible knowledge of the nature of man, the lecturer defined an automaton as a machine which has in itself a power of motion under conditions fixed for it, but not by it. In this sense man is an automaton. Advocates of the doctrine of pure automatism assert that the actions of men are solely the result of outward impressions on the nervous system, and that consciousness and will have no more to do with them than the whistle of a locomotive has to do with the progress of the machine. The automatic bellows-blower is an illustration of a pure automaton. The school just named holds that man is just such an automaton, and that a man possessing neither consciousness nor will-

power would, given the same conditions of heredity and environment, act precisely as men now do. The vital defect of this doctrine is that it contradicts the testimony of consciousness, which is the very witness which gives us the facts by which its own evidence is impeached. We are directly conscious of mental phenomena, and only indirectly of the physical, and we can judge of the nature of another human being only by attributing to him the same mental states which, as shown by consciousness, accompany in ourselves the same outward actions. The aim of the lecturer will be to reconcile the testimony of consciousness with the observed facts of physiology and psychology which have given rise to this theory of pure automatism. The relation between mind and body is largely maintained by the nervous system, an apparatus consisting of sensory and motor elements. This twofold nervous system, with the muscles on which it acts, and the mechanical levers moved by them, would make up the whole physical man but for the apparatus necessary first to build up this machine, and afterwards to keep it in health.

The connection between a *neurosis*, or change in the condition of the nervous system, and a *psychosis*, or change in the mental state, is a problem which probably will never be solved.

Prof. Clifford, influenced by preconceived mathematical ideas, was unable to conceive of change in matter as due to anything else than a change in the position or motion of surrounding matter. Prof. Huxley once admitted that neurosis was the cause of psychosis. Now he believes that neurosis can proceed in the absence of mind. The logical result of this theory, as stated by a distinguished adherent, is: "I am what I am, a creature of necessity. I claim neither merit nor demerit, and am no more responsible for my doings than is the needle which turns toward the poles, or the puppet which moves by the pulling of a string." Common sense, the universal testimony of consciousness, revolts at this theory. It contains much truth, but is not the whole truth. Much is due to heredity and environment, but man has a power over the formation of his character and in shaping his course of action, this power arising from his ability to fix his attention upon such motives as he prefers among those arising automatically before him. An important fact is that the greatest results of mental activity are produced by means of some of the smallest of the organs of the body. A famous instance is the case of Laura Bridgman, who, bereft of nearly every sense, was put into communication with the external world by the skill and patience of Dr. Howe. The case of the paralytic who ruled his family by the winking of his eyelids (*Noirtier* in Monte Cristo) illustrates another phase of this truth. The organs of speech, the muscles of facial expression, muscles used in writing, are all comparatively insignificant, and yet by their instrumentality the greatest results of mental force are accomplished. A striking instance was the bombardment of Alexandria following Lord Granville's brief dispatch: "Bombard the forts to-morrow morning." A few movements of the fingers upon a telegraphic instrument brought on a war. So true is it that there is no common measure between our mental and our physical activities. We may measure the waste of nervous matter expended in mental activity, but the "thoughts that breathe and the words that burn," how are they to be measured?

The truth is that mental and physical activity are two distinct spheres which touch each other only at the two points of sensation and motor impulse. The body may be likened to a horse, the mind to the rider who trains and measurably guides it. Thus the body is essentially automatic in all those functions which are concerned in the preservation of life, a control being given to the will—which is not an attribute but the *ego* in action—to modify to a certain extent the action of the body. The phenomenon of respiration affords a useful analogy. During sleep it goes on automatically, the will not being directed toward it, but when we speak, for instance, the will controls the breathing process to a considerable though limited extent. Coughing is a strictly automatic act, but yet may be checked or produced at the mandate of the will. In other words mental impulse is capable of exactly replacing the automatic in directing the action of these organs. From this fact arises the distinction between voluntary and volitionary movements. Thus in taking a walk the legs move automatically, while the mind is engaged in conversation with a companion, but if fatigue asserts itself, the will must step in and compel the continuance of muscular movement, and there are many similar illustrations.

Second Lecture, November 16.—This lecture comprised a general outline of our knowledge of automatism in the lower plants and animals, and thence up to man. Man's automatism is partly congenital, partly acquired; the form considered in this lecture was the former type, which is concerned wholly with vegetative or organic life. Higher than this is the automatism of sensation, higher still, rational automatism.

Commencing with the automatism of plants, the lecturer took up some of the lowest forms of plant life—the green seaweeds—describing the spontaneous movements of the zoöspores. Their motor organs are prolongations of the protoplasm of the plant. Vaucher, the naturalist of the last century, was the first who observed this plant motion. Hence the name of the plants—Vaucheria. He thought these plants were vegetable at one period of their existence, and at another, animal. The leading microscopists forty years since claimed that the plant was an animal. A much higher form of vegetable automatism is seen in the leaves of the sensitive plant, or in the action of Venus's fly-trap. If any leaf of the Mimosa be touched it at once droops and becomes flaccid, but gradually recovers strength and revives again. If any of the spines on the bilobular leaves of the Venus's fly-trap be touched the lobes rise and close, capturing any insect which may chance to be between them. An axis-cylinder of protoplasm extends from cell to cell in these plants and furnishes the connection necessary for automatic action.

Automatism in insects was next considered. The simplest form of animalcula is a cell having a mouth surrounded by ciliæ, which by a to-and-fro waving movement produce currents in the water in which the creature exists. Similar ciliated cells are found in the human body, in the lungs, for example. The amœba, one of the simplest of jelly specks, extemporizes a mouth at that portion of its body which comes in contact with a substance suitable for assimilation. A mouth and exit are both extemporized. Exactly similar bodies are found in our own blood—the white corpuscles. They can be seen taking matter into themselves just as the amœba does. Amœboid cells line the stomach and apparently assist in the assimilation of food. A higher grade of automatism is seen in the jelly-fish, in which there seems to be a separation of the nervous and muscular systems.

The crinoid, to which Dr. Carpenter has devoted special study, was next considered. In its perfect state the crinoid is a starfish with a distinct separation between nerve and muscle. Each arm of the starfish has hundreds of joints, each with its proper muscles of action and opposition, and the creature controls them by means of the nervous system at its centre. Articulated creatures—a centipede being the illustration—were next discussed. Then followed a description of the gan-

glionic system. The simple ganglionic apparatus in a water animal was explained. It has two orifices—one for the ingress, the other for the egress, of a current of water. The animal, probably, has a low degree of sensation, and whenever a solid substance comes in contact with one of the tentacles at the place of ingress, it is at once ejected by an act much like coughing —a good illustration of reflex action. Various other illustrations of reflex action in the lower animals were given.

In man there is an automatic action which continues through life. The act of sucking is perfectly performed by a new-born infant; there is great complication of movement, but it is wholly automatic. In puppies the cerebrum has been removed, and the act of sucking continued as perfectly as before. The act of swallowing is purely reflex. By an act of the will the food is carried to the lower muscle of deglutition, and they then act automatically. The stomach acts automatically in bringing food from its interior to its coats. The action of the pyloric valve is also automatic, as are the peristaltic movements of the intestines. The heart's action is likewise automatic, and thus it is seen that the important functions necessary for the preservation of life are carried on without our consciousness. The whole life of the lower animals is automatic.

CANADA.

(*From our Special Correspondent.*)

DR. DICKSON, OF KINGSTON.—Another of the Canadian Medical Schools has lost its senior member and presiding officer. Dr. Dickson, President of the College of Physicians and Surgeons, of Kingston, Ontario, died on the 23d, after a prolonged illness. The deceased was a native of Ireland, and began his professional studies at Belfast and Glasgow. He was a graduate of the University of New York (1842), and a member of the Colleges of Physicians and Surgeons of London. He was one of the founders of the Medical School at Kingston, and the Professor of Surgery, and President of the Faculty. For nearly ten years he occupied the position of Superintendent of the Insane Asylum. He was the first president of the Ontario Medical Council.

DIPHTHERIA IN PHILADELPHIA.—The deaths from diphtheria in Philadelphia for the week ending November 25th amounted to 29, a falling off of 10, or a decrease of about 25 per cent., as compared with the number for the preceding week. In the corresponding week of last year there were 21 deaths from this cause. For the month of November (to November 25th) there have been 103 deaths reported, which is an excess over the number recorded in any preceding month. The number of cases reported at the Health Office to November 27th, is 276, which represents an increase; but these figures show a laxity on the part of physicians in reporting cases, as required by law; otherwise the mortality would be unprecedented.

In comparing the cartographic illustrations of the prevalence of the disease as indicated by the deaths in 1882 with the year 1881, it is observed that there is a striking agreement in the periods of the rise and fall of the mortality; only that the lines in 1882 are more pronounced than in 1881. There are two periods of maximum mortality, namely, in the first and last periods of the year, and one of the minimum mortality which is reached between the end of the winter and the first of the fall months. The fall and winter months appear to be those in which the disease is most rife.

The disease appears to be confined almost exclusively to children; not a death is reported, during the past week, among adults.

Cases are reported in twenty-eight out of the thirty-one wards of the city. While the disease is thus generally distributed, the returns show that it is most prevalent in Frankfort, an outlying district.

In some instances the disease is reported as malignant in character; as many as three children dying in one family.

By an Act of Assembly, physicians are obliged to report all cases of diphtheria to the Health Office, as soon as they come to their notice, under a penalty not exceeding fifty dollars for violation of this provision of the law. This act has not hitherto been generally complied with. Its object is to furnish the authorities with the earliest information of the existence of the disease, that prompt action may be taken to restrict, if not prevent, the spread of the disease.

The Board of Health have published for distribution, a series of rules on the restriction and prevention of diphtheria, which appear in another column. This plan has been generally adopted in regard to other contagious diseases, and is to be commended in this case. As this disease is chiefly one of childhood, it is safe to assume that it is often communicated by the intercourse of children in the early stages of the disease, or from infected houses with others in the public schools and other places. It is, therefore, eminently proper that parents should be carefully instructed in their duties in this respect, and in all measures to restrict the spread of the disease.

SANITARY INSPECTION OF NEWPORT, R. I.—The Sanitary Protective Association of Newport, R. I., met on the 24th of Nov. to act upon the Report of the Sanitary Survey of the city, made under the auspices of the National Board of Health, by MR. E. W. BOWDITCH, of Boston, Mass. The report gives a general statement of the character of the results obtained by the inspectors. Over 2,000 surveys were made, the reporter's notes of which are in the hands of the Association, and available for immediate and practical use. Maps and charts accompany the reports, exhibiting by different shades of color, and by the number of degrees of a circle thus shaded, the percentages which were obtained. Thus, as to cellarage: the per cent. of good, fair, and bad cellars in the whole city is first shown, and then the ratios in each of the wards. Another series of drawings represents the relations of the privies and cesspools to the wells. We understand that it is not proposed at present to publish either the report or charts for general distribution. From the *Fall River Daily Herald* of November 24th, we learn that "The investigation was made at the request and expense of the Society [Sanitary Protective Association, Newport] to influence the city authorities to establish a separate health board, and it was offered to suppress the report if such a board were established. The proposition was refused, and it is probable that the full report will soon be given to the public.

CHOLERA AMONG THE PILGRIMS.—Official advices to the National Board of Health announce that cholera made its appearance among the pilgrims at Mecca, on October 24th. On the 29th, there were 48 deaths among them from this disease. As this is the time of the greatest afflux of pilgrims to the Holy Cities, and as they will shortly be commencing their return journey, it is justly apprehended that the disease may be spread by them with disastrous results. Vessels coming to Suez are strictly quarantined by the Sanitary Administration of the Ottoman Empire; thus the danger of the introduction of cholera into Europe, by way of the Red Sea, is considerably lessened; but the overland caravans may scatter the seeds of the disease, and bring them to the Mediterranean by unguarded routes.

Prevention and Restriction of Diphtheria.—The Philadelphia Board of Health has just issued the following circular on this subject:

Recent investigations having proved that the poison of diphtheria is portable, communicable by infection, and capable of reproducing itself outside of the human body, diphtheria must now be ranked as both a contagious and infectious disease. The following rules are therefore more imperative than ever before:

First. When a child or young person has a sore throat, a bad odor to its breath, and especially if it has fever, it should immediately be separated and kept secluded from all other persons except necessary attendants, until it be ascertained whether or not it has diphtheria, or some other communicable disease.

Second. Every person known to be sick with diphtheria should be promptly and *effectually isolated* from the public. Only those persons who are actually necessary should have charge of or visit the patient, and these visitors should be restricted in their intercourse with other individuals. Children residing in a house where there is a case of diphtheria should not be permitted to attend school.

Third. When a case of diphtheria is fully developed, the same precautions in regard to free ventilation, disposal and disinfection of discharges, bed or body linen, and so forth, isolation during convalescence (or management of the corpse should death unfortunately occur), etc., ought to be enforced which have already been recommended in regard to smallpox.

Fourth. It is particularly important that persons whose throats are tender or sore from any cause should avoid possible exposure to the contagion of diphtheria. Children under ten years of age are in much greater danger of taking the disease, and after they do take it of dying from it, than are grown persons. But adults are not exempt, and mild cases in them may cause whole series of fatal attacks among children.

Fifth. Numerous instances are recorded where the contagion of diphtheria has retained its virulence for weeks or months, in cesspools, heaps of decaying vegetable matter, damp walls, etc., and been carried for long distances in clothing, in sewers, in waste pipes from stationary wash-stands, and in other conduits. Hence all sewer connections and other carriers of filth should be well ventilated and disinfected, and children particularly should not be allowed to breathe the air of any water-closet, cesspool, or sewer into which discharges from patients sick with diphtheria have entered, nor to drink water or milk which has been exposed to such air.

Sixth. Beware of any person who has a sore throat; do not kiss such a person or take his or her breath; do not drink from the same cup, blow the same whistle, nor put his pencil or pen into your month.

Seventh. Do not wear nor handle clothing which has been worn by a person during sickness or convalescence from diphtheria.

The Bacilli of Tubercle only Fat-crystals.—At a meeting of the Pathological Society held at the Charity Hospital, New Orleans, on Nov. 20th, Dr. H. D. Schmidt, President of the Society, made a demonstration with the aid of the microscope to test the alleged discovery by Prof. Koch, of Berlin, of the bacilli of tuberculosis, or the germs of consumption. Dr. Schmidt has devoted much time to the observation of the bacilli of tuberculosis, and while engaged in his researches the discovery of Dr. Koch was announced to the world. This only encouraged Dr. Schmidt to renewed efforts, and the result was that he ascertained, beyond doubt, he claims, that Dr. Koch's germs were pseudo-bacilli, that is, fatty crystals, and not true bacilli. This result, it was stated, was obtained by long and arduous labor, in which the diseased organs of persons that had been afflicted with pulmonary consumption were minutely and carefully examined. Dr. Schmidt succeeded in finding the crystals, which were similar in appearance to those discovered by Koch, and evidently the same. To determine their nature, Dr. Schmidt subjected the crystals to the action of boiling ether, when they disappeared, proving that they were not germs or organisms, otherwise they would have remained unaffected by the ether.

Dr. O. W. Holmes has been appointed, by the President and Fellows of Harvard University, Emeritus Professor of Anatomy, in consideration of his many valuable services in the medical school during the past thirty-five years. He delivered his farewell anatomical lecture on last Tuesday.

DaCosta's Diagnosis.—A German translation of this well-known American work has just been issued by Hirschberg, of Berlin.

Suspension of the Archives of Dermatology.—It is announced that the *Archives of Dermatology* a well known quarterly journal, edited by Dr. L. Duncan Bulkley, suspends publication after the appearance of the number for the present quarter.

The Lancet's Libel Suit.—We are glad to hear that the Corporation of Brighton have abandoned the action for libel which they had commenced against the *Lancet*.

The "Pharmacopœia Germanica" for 1882.—The German Pharmacopœia has been subjected to revision, as is usual every ten years, and is now ready for distribution. Many articles included in early editions, and now proved to be worthless, have been discarded, and the new drugs receive full attention, so while the edition of 1882 considers more than 300 articles less than that of 1872, the space remains nearly the same. It is written in Latin.

Jefferson College Hospital.—Drs. Joseph Hearn and O. H. Allis, have been elected surgeons to the Jefferson College Hospital, in Philadelphia.

The New York Society for the Relief of Widows and Orphans of Medical Men has just published its 20th Annual Statement, from which it appears that the society now numbers 142 members, of whom 94 are for life and 48 annual subscribers. There are also 22 benefactors, constituted by the payment of $150.00. During the past year $4,288.00 were paid to annuitants and its present assets are $141,249.49.

Charges against Prof. Frothingham, of the University of Michigan.—The Medical Faculty of the University of Michigan have just considered the charges made by student Morgan against Prof. Frothingham, of attacking the Christian religion, and the counter-charges of falsehood by Prof. Frothingham against Morgan. The Faculty, on Nov. 24th, decided that as to Prof. Frothingham they had no jurisdiction, but that the charges of the latter against Morgan were not sustained. This is claimed to be a victory for Morgan against Prof. Frothingham, and it is stated that the matter may now be taken into consideration by the Board of Regents as against the Professor.

Rotunda Lying-in Hospital.—Dr. A. V. Macan has just been elected master of this well-known institution, to succeed Dr. Lombe Atthill, whose term of service has expired.

EDINBURGH UNIVERSITY.—It is said that there are three hundred more students in Edinburgh this year than last.

DR. FRANCIS SEYMOUR HADEN, the eminent English etcher and surgeon, now on a visit to this country, was the guest of the St. Botolph's Club, in Boston, last Saturday evening.

A SUIT FOR MALPRACTICE AGAINST THE LONG ISLAND COLLEGE HOSPITAL.—A suit to recover $25,000 as damages for unskilful treatment of a broken leg, brought by Carl Elbe against the Long Island College Hospital, came to trial this week, in the Circuit Court, before Judge Gilbert. The plaintiff alleges that he went to the hospital with one leg broken on May 29, 1880, and by malpractice his leg was permanently shortened, and he was crippled for life. The hospital authorities made a general denial of the charge of improper treatment. The case is still on trial.

THE PARKES MUSEUM OF HYGIENE.—This museum has been incorporated by Act of Parliament and has recently acquired quarters in Margaret Street, Regent Street (opposite the Church of All Saints). On October 28th, the first general meeting was held and His Royal Highness, Prince Leopold, Duke of Albany, was formally elected the first president.

THE COLOR BLIND.—According to the *British Medical Journal* the Swedish Government has decided to employ no individual on railways, or on board ship, in that country, until he has successfully passed Prof. Holmgren's test of color-blindness.

HEALTH IN MICHIGAN.—Reports to the State Board of Heath for the week ending Nov. 18, 1882, indicate that typhoid fever, pneumonia, and neuralgia have increased, and that bronchitis, tonsillitis, typho-malarial fever, diphtheria, intermittent fever, cholera morbus, diarrhœa, and scarlet fever, have decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending Nov. 18, and since, at 24 places, scarlet fever at 13 places, and measles at 3 places. Smallpox was reported at Niles and at Grand Rapids, Nov. 18.

OBITUARY NOTICE.—DIED, on October 26th, PROF. OBERNIER, of Bonn, in the 44th year of his age. Prof. Obernier was born in Bonn, in 1839, where he obtained his medical degree in 1858, his dissertation on the nerves of the uterus receiving a prize. He was soon appointed an assistant at the university clinic, and succeeded Prof. Rühle as ordinary Professor of Medicine in the Bonn University. He was called to Jena but he preferred to remain in his native university-town. He served through the Franco-Prussian war, and was decorated with the iron cross. He was the author of the Section on Diseases of the Brain in Ziemssen's Handbook.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 20 TO NOVEMBER 27, 1882.

ALDEN, CHARLES H., *Major and Surgeon.*—At expiration of present leave to report to the commanding general, Department of Dakota, for assignment to duty.—*S. O., par. 10, No. 273, A.G.O., November* 23, 1882.

BILL, JOSEPH H., *Major and Surgeon.*—At expiration of present leave to report to the commanding general, Department of the Platte, for assignment to duty.—*S. O., par. 10, No. 273, A.G.O., November* 23, 1882.

MCKEE, JAMES C., *Major and Surgeon.*—Now awaiting orders, is assigned to duty in the Department of California.—*S. O., par. 10, No. 273, A.G.O., November* 23, 1882.

SMITH, ANDREW K., *Major and Surgeon.*—At the expiration of his present sick leave will be assigned to duty at Willet's Point, New York.—*S. O., par. 10, No. 273, A.G.O., November* 23, 1882.

BARNETT, RICHARDS., *Captain and Assistant Surgeon.*—The leave of absence granted November 1, 1882, is extended five months.—*S. O., par. 11, No. 273, A.G.O., November* 23, 1882.

BROWN, PAUL R., *Assistant Surgeon.*—The leave of absence granted May 25, 1882, is extended six months on surgeon's certificate of disability.—*S. O., par. 7, No. 273, A.G.O., November* 23, 1882.

CLEARY, PETER J. A., *Captain and Assistant Surgeon.*—Now awaiting orders, will report to the commanding general, Department of Dakota, for assignment to duty.—*S. O., par. 10, No. 273, A.G.O., November* 23, 1882.

CORSON, JOSEPH K., *Assistant Surgeon.*—Is assigned to duty at Jefferson Barracks, Missouri.—*S. O., par. 8, No. 273, A.G.O., November* 23, 1882.

MUNDAY, BENJAMIN, *First Lieutenant and Assistant Surgeon.*—Will be relieved from duty at Willet's Point, New York, and assigned to duty in the Department of the Columbia.—*S. O., par. 10, No. 273, A.G.O., November* 23, 1882.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE MARINE-HOSPITAL SERVICE, JULY 1 TO SEPTEMBER 30, 1882.

HUTTON, W. H. H., *Surgeon.*—To inspect keepers and crews Life-Saving Service, July 11, 1882.

MILLER, T. W., *Surgeon.*—To inspect keepers and crews, Life-Saving Service, August 7, 1882.

WYMAN, WALTER, *Surgeon.*—To inspect keepers and crews, Life-Saving Service.

LONG, W. H., *Surgeon.*—Granted leave of absence for ten days, July 1, 1882. Granted leave of absence for fourteen days, September 16, 1882.

MURRAY, R. D., *Surgeon.*—To proceed to Brownsville, Texas, August 21, 1882.

PURVIANCE, GEORGE, *Surgeon.*—To inspect keepers and crews, Life-Saving Service, July 13 and 18, 1882. To report for temporary duty at Washington, August 23, 1882. To report for temporary duty to Chairman Board of Examiners, Rev. Bk. "Chase," at Norfolk, August 26, 1882.

SMITH, HENRY, *Surgeon.*—Granted leave of absence for thirty days, July 5. 1882.

FISHER, J. C., *Passed Assistant Surgeon.*—To report for temporary duty to Chairman Board of Examiners, Rev. Bk. "Chase," at Norfolk. August 26, 1882.

IRVIN, FAIRFAX, *Passed Assistant Surgeon.*— Granted leave of absence for thirty days, July 28, 1882.

CARTER, H. R., *Passed Assistant Surgeon.*—To proceed to Hickman, Ky., for temporary duty, August 10, 1882. To proceed to Memphis, Tenn., for temporary duty, August 12, 1882. To proceed to Little Rock, DeValls Bluff, and Newport, Ark., as inspector, Sept. 16 and 21, 1882.

PORTER, F. D., *Assistant Surgeon.*—To proceed to St. Louis, Mo., for temporary duty, August 21, 1882. To report to Surgeon Sawtelle for examination for promotion, Sept. 1, 1882. To rejoin his station (Chicago) when relieved by Assistant Surgeon Urquhart, Sept. 1. 1882.

BENSON, J. A., *Assistant Surgeon.*—To proceed to Cairo, Ill., for temporary duty, August 12, 1882.

DEVAN, S. C., *Assistant Surgeon.*—To join Rev. Str. "Corwin," for cruise in Alaskan waters, July 10, 1882.

URQUHART, F. M., *Assistant Surgeon.*—To proceed to Wilmington, N. C., for temporary duty, July 26, 1882. To proceed to St. Louis, Mo., for temporary duty, September 1, 1882.

PROMOTION.

PORTER, F. D., *Passed Assistant Surgeon.*—Promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury, from October 1, 1882. September 14, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

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VOL. XLI. SATURDAY, DECEMBER 9, 1882. NO. 24.

ORIGINAL LECTURES.

ON CERTAIN CUTANEOUS AFFECTIONS OF THE HANDS.

A clinical lecture delivered at the Rush Medical College,

BY JAMES NEVINS HYDE, M.D.,

PROFESSOR OF SKIN AND VENEREAL DISEASES IN THE RUSH MEDICAL COLLEGE, CHICAGO, ILL.

GENTLEMEN: By one of those singular coincidences with which we are made familiar in every public clinical experience, we have here presented to us for study several patients whose hands chiefly are affected with cutaneous disease. Let us begin by passing these cases in review; and then endeavor to understand the sign-language they are ready to teach us.

The first patient is a middle-aged woman in apparently fair health, who complains of an "itching humor which has been out for three weeks on the hands." She tells us that she does all the household work for her husband and three children. When we examine her hands, we observe that both organs exhibit a cutaneous disease, the right rather more than the left. The disorder has involved chiefly the dorsal surfaces and interdigital spaces. Here the integument is irregularly involved, in areas so indeterminate in outline that we could not map out the diseased surfaces with a pen or pencil. The limitation is most distinct as regards the palms, which are absolutely free from invasion. On the dorsal surfaces, chiefly about the metacarpo-phalangeal articulations, there is moderate thickening of the skin, which is of a dull reddish hue, and moreover raised so as to form papular elevations as small as poppy-seeds, very irregularly disposed upon the surface. Islands of sound skin, as indeterminate in outline as the patches of disease, can readily be distinguished here and there over the dorsal surfaces nearer the wrist. There is a little oozing from a few of the papules which have been torn in scratching, and this ooze has desiccated into a few thin and insignificant crusts on the right hand. The disease-process, you see, has extended slightly upward over the forearms, but ceases absolutely about the middle third of each. There is, however, at this limit of extension, no line of demarcation. Straggling papules of poor development, and less reddened patches gradually cease to show at this level; that is all. Her face, too, is reddened; its skin is slightly infiltrated, and she complains also of itching in this region. By passing the finger over its surface, you can here also detect a few very minute papules, and recognize the fact that the skin is here hotter than normal. The outline of the involved area is very indeterminate; we cannot say where the disease process begins and where it ends.

This affection we recognize without difficulty as an illustration of eczema, erythematous and papular in type. Our questions elicit the fact that she has been using a strong solution of washing soda in her laundry-tub, in order to save some of the labor of scrubbing her clothes with her hands; and this caustic solution, she admits, she has also used in washing her face. So much light, then, we have thrown upon the "humor of the blood."

The next patient is also an adult, a fireman, of vigorous appearance, whose hands are carefully wrapped up in greasy rags. He tells us that they have been giving him trouble for nearly a year; that no physician has thus far been able to help him; and that he has no disease of the skin elsewhere. Now that they are uncovered, note how very differently his hands are involved from those we have just seen, not only as regards the site of the disorder, but also with respect to its behavior. The jealousy with which the palms were respected in that case is equalled in this by the absolute immunity of the dorsal surfaces. Here, on the right hand only, a single patch of disease slightly laps over the web stretching between the thumb and index finger, but in no other part is there any approach of the skin affection to the back of the hands.

Both palms, you observe, are involved, and nearly equally, almost symmetrically. Here we have a disease in distinct patches; we can map out each perfectly with a pen. The patches are of the size of half and whole silver dollars; some, nearly as perfectly circular; some oval; one, over the left hypothenar eminence, reniform or kidney-shaped. Look carefully at these curious disks, for each tells its story. In nearly every one, you can make out three levels. First, you see that the outer line of the disk is constituted of an apparently sound epidermis of the palm, clipped sharply and circlewise, as by a delicate pair of scissors, and slightly raised above the first level which it walls in. This rise of the apparently sound epidermis forming the wall, has slightly interfered with its vitality, for it has an unnaturally dead-whitish hue for a brief space around, and can be slightly raised from its bed with the finger-nail.

Next, proceeding towards the centre, is the first level, where is a younger and more tender epidermis, which, because it is thus young and tender, is unnaturally translucent, and permits the color of the inflamed derma beneath to modify its tint. This is why these disks have a dull purplish hue, and not the reddish shade of the hands we lately saw fresh from the laundry tub. But this new epidermis fails us as we pass to the centre of the disk, fails us very irregularly as to its width, but quite regularly as to its curved cuttings, over which we pass to a second level. Here is an epidermis still younger and still more tender, but yet an epidermis, through which, yet more clearly, we get a glimpse of the deep purplish and inflamed corium beneath. Lastly, in the centre, we reach a third and deepest level, which differs in different disks. In some, you see a glazing, over the engorged and empurpled derma; in others, the latter is fissured aud oozing, the fissure extending in a straight crack across the disk, but always at nearly a right angle with the axis of the hand.

These palmar fissures annoy the patient more than any other symptom; and for this reason he has his hands so carefully tied up. He is a right-handed man, and he refers all his troubles to his handling of the hose-pipe when discharging his duties as a fireman.

But we are wiser than he in this matter, and indeed ought to be, seeing that these lesions tells us their own story without aid of his. Nothing but syphilis can explain such a pathological condition of the palms. No eczema, no psoriasis, no scabies, no lupus, no one of the long list of other cutaneous maladies, is ever characterized by the formation of these circular and oval disks, with their frayed epithelial walls and series of rising epidermal plateaux, with central ulcers or fissures. We are quite prepared to hear him therefore admit, as he does with some astonishment when he is

questioned upon that point, that he did have a sore on the genital region six years ago, followed by suspicious symptoms which were at the time "cured;" and that one of the first fruits of his subsequent marriage was an abortion on the part of his wife.

Our next patient is a healthy-looking man who approaches with his hands also carefully wrapped up, and who removes the dressings with extreme care. When exposed to view, we note that both organs are very extensively involved, the right more than the left. The palms are spared but the dorsal surfaces are pretty uniformly affected. The skin is tumid, and resembles a cushion on the back of the hand. The surface here is covered with pin-point sized vesicles, between which serum oozes from floors where evidently other similar lesions have formed and ruptured. Some of these vesicles have clear, others lactescent, contents. Here and there, sparsely found it is true, are small pustules evidently resulting from transformation of the vesicular lesions. A few light yellow crusts are seen on the region about the knuckles. The vesicular lesions extend to the interdigital spaces, where also the skin is swollen, hot and painful.

This is a case of dermatitis venenata. Our patient describes slightly bruising one knuckle of his hand with a hammer: and for the relief of the trivial resulting abrasion, he applied the tincture of arnica freely over the surface. He is sure that he spilled this over both his hands; and the dermatitis was in this way originated. Generally in such cases, the hands of the male carry the offending substance to the genital region, when the penis is handled in the act of micturition. This has been the result in this instance, the skin of the penis and scrotum being similarly affected, but to a decidedly less degree than that of the hands.

Let me say, in passing, that the poisonous action of tincture of arnica upon the skin is not generally appreciated. Dr. White, of Boston, was the first to publish an account of three cases in which this accident occurred (*Boston Med. and Surg. Journ.*, No. 3, Jan. 21, 1875, page 61), and Dr. C. W. Earle, of this city, has added an account of one interesting case. This is the second which has been presented at this clinic, a patient similarly affected having been shown to the class last year.

Here, finally, are two young men who come in together, and who tell us that they have been engaged at the same time upon the same kind of work. They were employed by some master-workman to put a certain species of coloring material upon the interior walls of a house, using for that purpose the broad brush of the "white-washer." In this way, they tell us that their hands chiefly, and, to a lesser degree, also, their faces, were spattered with the coloring solution, and soon after this accident the eruption appeared. As they sit together, side by side, you see that the four hands are affected, each to nearly the same extent. You notice also that the resulting lesions of the skin are somewhat similar to those we observed in the case of the laundress, and that the disease is the same, though rather more pronounced. The palms are spared. The backs of the hands, and, to a less extent, the wrists and the lower part of the exposed forearms, display light- and dark-reddish, very irregularly outlined and slightly thickened patches of disease, with interspersed vesico-pustules, papules, and delicate crusts. Equally ill-determined islets of sound skin are here and there interposed. The interdigital spaces are to a less degree involved. They complain of considerable itching. Notice particularly that in each man the right hand is more involved than the left, and that the disease is decidedly aggravated in the region of the thumb, the adjacent forefinger, and the intervening web. Each of these patients informs us that he is right-handed. Observe, also, that one of them has employed a flax-seed poultice over a portion of the hand, and that the diseased skin to which this application has been made is sodden, unnaturally white, and is also the seat of a few superficial erosions. In one place, a rather painful fissure has occurred, where the integument has been in this way weakened, and in its weakened condition put upon the stretch.

Let us now endeavor to understand the lessons which this series of diseased hands can teach us.

In the first place, with respect to the etiology of these affections, we observe that in one instance syphilis is accountable for the lesions; and that in all the others we have a satisfactory explanation in the operation of external agencies. And yet, when we study the hands of our syphilitic patient, we see that the systemic disorder is not alone accountable for the local distress. Here, none the less, we find that the constant handling of the wet hose used by firemen has greatly aggravated, and thus prolonged, the palmar affection. This lesson is so useful and important, that no one can safely ignore it. By the hand, more than by any other portion of his body, man comes in contact with the external world in his daily toil. What wonder, then, that it displays in the highest degree, the resentments which all such traumatic, poisonous, and other injurious contacts arouse! Here we have an epitome of the entire etiology of eczema. Did you ever think of it, the hands of an infant at the breast, hands unused in toil, are much less frequently affected with eczema and dermatitis, than those portions of its tender skin with which the hands of its mother or nurse have reason to be most intimate? Its scalp, irritated by an effort to remove the incrusted *vernix caseosa*, its buttocks covered by soiled napkins, and the neck, with which its clothing frequently comes into harsh contact, are in its case much more commonly involved. And if we go a step further, back to its uneventful life *in utero*, we discover that then it is absolutely and always saved from every accident which can endanger an eczema or dermatitis, as it floats in its warm water-bath, protected by its natural unguent from the macerative action of the surrounding fluid. If we are told that these disorders are due to a diathesis—rheumic, arthritic, dartrous; if we are bidden to refer these maladies to preverted innervation, to assimilative debility, or to other equally indefinite causes, let us remember these striking facts. No child ever came into the world eczematous.

Notice, if you please, also, that in each case, our patients being all confessedly right-handed, that in each the right hand is most seriously involved, and that part also of the right hand which is most efficient in ordinary handicraft, namely, the thumb and index and the neighboring parts. How can any one whose patient exhibits these striking symptoms conceive for a moment that the skin disorder is one which originates from "impurities in the blood." If we go a step further, and inquire respecting the invasion of the palms in one class of cases and their immunity in another, we can receive an approximate answer only. Doubtless the reason why the backs of the hands are involved and the palms spared in the eczematous subject, is that the latter are relatively much thicker, and as a result much more fitted to resist the action of external irritants. Supposing that the latter exert an equal influence upon both planes of the hands, the dorsal surfaces naturally suffer first, because they are the more delicate in texture. That this is so, we are the more persuaded, because we do find very remarkable instances in which the palms alone are involved in eczema; cases, I should add, in which usually the parts chiefly affected have been long subjected to the action of a severe caustic or other irritant. In these rare instances

the surface is commonly symmetrically and diffusedly involved, being abnormally reddened or even whitened, in consequence of the thickening of the epidermis, the resulting inextensibility often producing a species of semiflexion of the fingers toward the palm, and a proportionate difficulty in their complete extension.

If we next inquire why the palms alone are involved in the syphilitic patient, we are at a loss for a satisfactory explanation. Still, the very selection of a particular portion of the general surface of the body is a striking characteristic of many of the late syphilitic eruptions, and of not a few of those which may be regarded as early. The palmar and plantar syphilodermata occur both as early and late manifestations of the malady. This that you have seen is the late form, as we know, not merely by comparing the lesions with the date given in the patient's history, but also by inspection of the palms. The large size of the disks; the exfoliating lamellæ of epidermis, which have probably been chiefly responsible for the grave misnomer of "syphilitic psoriasis," applied to the disorder; and the deep fissures in an ulcerated condition which have formed centrally—those are not very like the more superficial, pea-sized, and merely desquamative lesions seen often within a few months after infection. To repeat, many of the late lesions of the disease are conspicuous for the selection of a special area: some linger near the nose; others at the anus; others, again, over the tibiæ, the olecranon, or the patella.

Usually with a palmar syphiloderm we can discover a corroborative lesion in the mouth, the glands, or on some other portion of the body. Although there has been some doubt expressed upon this point, I am confident that cases occur where, after careful scrutiny, the hands alone are found to betray the evidence of syphilis in its objective symptoms. Pathologically, we know that the exfoliation and fissuring of the epidermis are accidents of the process. The disease really involves the derma, and it is only because the derma in this situation is covered by so dense an outer envelope that the phenomena are presented to us in this form, In the face, where the sebaceous glands are numerous. products of the syphilitic process may have a seborrhœic character; about the anus, where there is greater heat and moisture, vegetations often form; on the palms, dry, unprovided with sebaceous glands, and horny, naturally the thick epidermis plays a prominent part in the symptoms.

This much understood, the diagnosis and etiology of the several diseases of the hands are readily reached. Syphilis aside, there are few disorders limited to these organs which are not either forms of dermatitis or eczema, including under the latter term the eczematous lesions seen in scabies, a disease with an etiological difference. In the latter, we look to see a great multiformity of lesions, and, radiating from some of the pustules or vesicles, the little furrow or canaliculus where the female *acarus* has tunnelled her way beneath the skin and there deposited her ova. Scabies is rare in this city, and has been equally so in many of the Eastern towns of our country since the late civil war came to an end. But the increasing tide of immigration is, at last, restoring to our clinics a disorder familiar, indeed, to our fathers in medicine, but which was fast becoming to us a curiosity. You will be surprised to notice how many of the diminutive news-sheets published in this country during the early part of this century contain advertisements of remedies to cure "the itch."

Lupus erythematosus is occasionally seen upon the hands. I showed a young lady to the class, a few months ago, with a characteristic patch of the disease upon one hand; and the late Dr. Fox, of London, in his plates, gives an illustration of the affection as it occurs upon the same organ. It decidedly prefers the dorsum of the hands, and spreads here rather more actively than upon the face, doubtless in consequence of the freer movements and accidents of contact of these organs. It is for precisely that reason, I suspect, that it tends to run up to and encircle the thumb, often spreading at one border while it leaves at the other its characteristic scar, the most elegant of all cutaneous scars. This is smooth, uniform, unattached and punctate, suggesting the action of the engraver's tool in what they term the "stippling" process. By many of its characteristic symptoms you can here recognize it: Its attached scales, often worn off from the hand, it is true; its deeper than light-reddish shades; and its frequently roughened, well-nigh ichthyotic aspect, when it has occurred on the hand of the seamstress. But I beg you to remember in particular one tolerably constant diagnostic symptom of value: the patch of erythematous lupus on the hand, however it may differ in other respects from those upon the face, acknowledges its relation to the latter in its distinct outline. Only the palmar disk of our syphilitic patient had such a contour. All the other hands, whether affected with a dermatitis or an eczema, were singularly free from this distinctness of contour in their patches of disease. It is, in general, safe to say, never hastily decide that patch of cutaneous disease to be eczematous, where you can take a pen or pencil and distinctly outline the involved area at every point. Lastly, erythematous lupus usually involves one hand only.

There are a few other disorders found upon the hands which could scarcely be confounded with those we have here seen. In lichen ruber planus, the groups of glazed and umbilicated papules, found at the wrist chiefly, are the symptoms of a disorder rarely seen in this country. In herpes iris, or erythema multiforme, by whatever name you choose to call it, the mere fact of the concentric and regular arrangement of circlets of vesicles of different ages in a single patch, upon the back of the hand chiefly, would suggest the existence of a special disorder. This, though less rare than the affection last named, you will occasionally encounter. It is but a few weeks, since I was shown an exquisite example of this disorder upon the hands of a young woman, the patient of one of my colleagues.

Then there are those isolated, but often closely agglomerated, vesicles, or vesico-pustules, and even bullæ, excessively painful and often surrounded by an inflammatory halo, which are seen upon the lateral surfaces of the fingers, and, indeed, upon all parts of the hands, in those cachectic patients who have been sweating profusely. Fox, and Hutchinson, of London, and others, have given these lesions different names, "dysidrosis," "cheiro-pompholyx," etc., but their exact pathological history is not well understood.

The hands, too, especially on their dorsal surfaces, often exhibit patches of vitiligo. In such case the lesions are readily recognized by the entire absence in them of hyperæmic and exudative symptoms, and the manifest limitation of the anomaly, to the mode in which the pigment is distributed. The coloring matters of the skin are then merely absent in tolerably well-defined areas, and heaped up, as it were, about the borders of the decolorized disks, in chocolate to fawn-colored shades. Occasionally a species of irregular reticulum can be discovered over the backs, usually of both, of the hands, composed of blanched spaces surrounded by an irregular mesh of pigmented striæ, the distinction thus presented to the eye being, in such cases, much more obvious during seasons of hot weather. At such times the effused sweat seems to be in part effective in what may be figuratively described as a sweeping away of the pigment material from certain definite whorls, around which it is accumulated in excess.

Lastly, we should not forget the frequent occurrence, in early life, of simple warts upon the hands; in middle life, when the patient is toiling in manual labor, of resulting palmar callosities, malignant pustules, dissecting wounds and erysipelas of the same organs; and, in advanced years, of the epitheliomata, which may occur usually upon the dorsum of one hand only, whose origin here can be frequently traced to an irritated wart or similar hypertrophy.

Let us note before we dismiss the subject, that the hands are commonly spared by psoriasis, whose plaques, however, in rare instances can be recognized upon the dorsal surfaces. Their occurrence upon the palms may be regarded as a pathological curiosity, and upon the palms only, as an expression of the disease to be received with great doubt and reserve. Tinea versicolor is never seen on the hands, though the other vegetable parasites may flourish there, and even involve the nails. These organs also are affected in many diseases involving other regions of the skin, as in lepra, pityriasis rubra, multiple sarcoma, and the exanthemata. In smallpox the pustular lesions are here, as a rule, much less numerous and well-developed than upon the face, and the resulting cicatrices are proportionately fewer and inconspicuous, often entirely absent when the face is deeply scarred.

Now the treatment of the hands, we have seen, is a very simple matter. Our syphilitic patient alone will receive internal treatment, the biniodide of mercury in union with the iodide of potassium, which we are accustomed to employ in the combination known as the *sirop de gibert*. His hands will be macerated at night in very hot water, and then well anointed with equal parts of Squibb's six per cent. mercurial oleate and vaseline, retained, during the night, in contact with the skin by drawing over the hands a pair of undyed leather gloves. All the other hands will get well if the cause of the disease in each be removed, and the organs are given sufficient rest. This is a matter of some importance. Never permit yourself to be pushed by a patient into the false position of attempting to "cure" the disease of his hands, with your drugs for the stomach and salves for the skin, while the sufferer is aggravating the trouble in the daytime by the accidents of his daily toil. If for the poor hard-worked seamstress, and the poor father of a large family, the latter is imperative, you can sympathize with their necessities, and aid them greatly, while you give them to understand that your method of treatment is not the best and most effective, but vastly inferior to another. In other words, tell them the whole truth, that the organs will take care of themselves if simply protected and disused.

The first thing to do under such circumstances is, for those which are acutely inflamed, to soak them well every night in a weak solution of borax or the bicarbonate of sodium, in water just as hot as can be comfortably tolerated, the hands being immersed for from ten to twenty minutes. This is usually grateful, alleviates the itching, and is not followed by the sharp reaction of cold water. Then they may be well smeared with a lotion composed of equal parts of olive oil and lime water, to which has been added a drachm of the bismuth subnitrate, and, when the itching is severe, also a drachm of dilute hydrocyanic acid. This makes a creamy preparation, usually well tolerated by the skin, which can be applied on soft bits of old muslin covered, if need be, with oiled silk or the Lister protective, to prevent evaporation. As the acuteness of the disease subsides, under the topical treatment, you may either protect their hands by the dusting powders, and for the financially impoverished, a package of "Oswego Gloss Starch" from the nearest grocer answers well; or you may select one of the many ointments useful in eczema, such as calomel, bismuth, zinc oxide, or litharge, incorporated with vaseline or cold cream. Only in chronic forms of the disease of the hands will it be proper to use such stimulating topical medicaments as those compounded of tar, resorcine, gynocardic acid, and naphthol.

One of our patients was decidedly worse in consequence of having applied a poultice to the hand. The use of poultices in diseases of the skin is much more limited than in surgical and medical practice. They are properly limited to the cases where crusts or other pathological deposits are to be softened before removal, and to cases where the skin is to be softened before exit is given to pus, either within or below its tissues, as in furunculosis and carbuncle. For disorders of the skin proper, such as eczema, dermatitis venenata and medicamentosa, and similar affections, the weakening of the skin by the action of a poultice is in general to be deprecated.

But we must not lose sight of the fact we had in view, before discussing any method of treatment. Protect these hands in a state of disuse, and they will all speedily improve, even those of the syphilitic patient; while the others will finally exhibit a complete involution of their several diseases.

ORIGINAL ARTICLES.

ON THE USE OF THE ACTUAL CAUTERY (THE THERMO-CAUTERY OF PAQUELIN) IN THE TREATMENT OF CARBUNCLE.

BY P. S. CONNER, M.D.,
PROFESSOR OF ANATOMY AND CLINICAL SURGERY IN THE MEDICAL COLLEGE OF OHIO, ETC.

CONSIDERING the length of time that it has been recognized as a special surgical affection, the unmistakable character of its symptoms, and the numerous investigations that it has been the subject of, it is remarkable how diverse are the opinions, even to-day, held respecting the cause, the anatomical seat, and the safest and best treatment of carbuncle. Is it constitutional or local; does it depend upon injury, the entrance from without of micro-organisms, or the presence of morbid or irritant materials circulating in the blood; is it an evidence of, and consequent upon, diabetes; or may a condition of glycosuria be produced by it, to disappear before or at the time of its healing; is it the result of, or how far is it affected by, weather changes, mental disturbances, high living, or overwork and privation?

Is it primarily a dermatitis or a cellulitis; does it start in the sebaceous follicles, in the sweat glands, in the ordinary subdermal connective tissues, or in the *columnæ adiposæ* of Warren?

Interesting questions, all, but not to be considered at present. As respects treatment, there is as little unanimity of opinion. Shall reliance be had upon the internal administration of drugs; and, if so, shall they be tonics and stimulants, or supposed special eliminants, or recognized parasiticides, as iodine and the bichloride of mercury? If any local treatment is employed, shall it be simple poulticing or hot-water dressing, or stimulating appplications, as turpentine or blisters; or shall incisions be made, that tension may be relieved and the separation of sloughs facilitated; or shall the whole tumor be cut away; or shall the cautery, actual or potential, be early and thoroughly applied?

That many of the less severe cases will, without much trouble, get well under simple treatment, every one knows; and at times even the more threatening ones will eventuate well. The largest carbuncle that I have ever seen, occupying the posterior half of the left thigh in its lower two-thirds, was recovered from in about five weeks, and with very little resulting impairment of the functional integrity of the limb, under the application of mixed castor-oil and turpentine. The long-time standard treatment by incisions, transverse or crucial, is known to occasion at times severe, even dangerous bleeding; and very often neither relieves the pain, arrests the spread of the inflammation, nor, by facilitating the separation of the sloughs, hastens the recovery. Subcutaneous incision is followed by no better result in many cases. The application of caustics (Vienna paste, chloride of zinc, etc.), which has been with some, particularly the French, surgeons a favorite, is objectionable on account of the pain that is caused, the excessive suppuration which may follow, and the considerable loss of substance which is often produced. The use of the actual cautery is not new; but only within a few years, since the introduction of the Paquelin instrument, have we had a convenient way of using high heat without the unpleasant accompaniments, not to say annoyances, of the old-time cautery irons.

As the result of my own observation, limited, it is true, but still sufficient from which to draw some conclusions, I am satisfied that by the early application of the thermo-cautery knife, or, much better, the hammer-head (if I may so term it, the *foyer en forme de champignon*, of Collin), the pain may be quickly, generally almost at once, relieved, and the progress of the inflammation arrested. The reported observations of others, as those of Verneuil and of Post, confirm me in my opinion. In the cases that I have treated in this way little or no suppuration has occurred, and the eschar has separated in due time, leaving a healthy granulating surface that has soon cicatrized. Even when the carbuncle has been fully formed, and pus has begun to discharge through the skin-openings, I have derived, I believe, much positive benefit from the thorough application of the cautery, thrust into and through the dead tissue; materially lessening the suppuration, stopping the extension of the disease, hastening repair, and securing a scar-deformity decidedly less than that after any other method of treatment.

Either a white-heat or a dull red may be employed; the use of the latter, of course, being much less likely to be attended with bleeding. In my own cases no troublesome hemorrhage has been produced by the application of the highly-heated cautery. The after-treatment has been very simple, either dry cotton or hot-water dressings being applied until after the separation of the eschar or the slough.

As every one will admit, the special danger in the severer cases of carbuncle lies either in the exhaustion consequent upon protracted suppuration occurring in an individual already debilitated, or the subject of grave organic disease, especially of the kidney; or, as is more usual, in the great liability to the development of one or other form of blood-poisoning. There must, therefore, be great advantage in a method of treatment which will promote early separation of the dead tissue, will restrict the suppuration within comparatively narrow limits, and will—as Langenbeck has stated—best secure firm clots and prevent pyæmic accidents. Without presuming to go as far as Vallette has done, in declaring that for carbuncle the actual cautery is "an unfailing specific, more infallible than quinia in the treatment of intermittent fever;" and fully believing with Trelat, that "every exclusive method is bad in so far as it is exclusive," and that "the treatment must vary according to the progress and form of the swelling, and also according to the general condition of the patient;" I cannot but think that in other than the milder cases the use of the thermo-cautery will yield better results, as respects time, suffering, and local damage, than any other method of treatment, therapeutic or operative. As in the first day or two it is often impossible to determine whether the carbuncle is or is not going to run a mild course, as cauterization may abort the disease, and as it is a procedure not specially severe, and not in and of itself dangerous, one certainly would be justified in its early adoption in any case.

EXCISION OF ULNA FOR OSTEOMYELITIS, CONSECUTIVE TO AMPUTATION FOR GUNSHOT WOUND.

BY WILLIAM A. BYRD, M.D.,
OF QUINCY, ILLINOIS.

OSTEOMYELITIS of a violent type is one of the most unfortunate circumstances that may complicate the progress of a case after amputation. Many lives have been sacrificed by temporizing; the surgeon hoping that the bone may necrose completely and be thrown off, instead of amputating above the next joint. It would be useless for me to go into the consideration of this matter upon this occasion, and any one interested in the subject will find it very ably elucidated by Prof. Chas. MacNamara in his *Lectures on Diseases of the Bones and Joints*, 2d ed. I take it that Prof. John Ashhurst, Jr., agrees in the main with Mr. MacNamara, from the statement he makes regarding this condition in his article upon amputation in the *International Encyclopædia of Surgery*, vol. I. pp. 604, 605. Other authors that I have consulted do not seem to be as well settled in their convictions, as the matter is written about very indefinitely.

When acute osteomyelitis sets in after an amputation of the forearm, a proper conservatism would require that an exsection should be performed, taking away the whole of the diseased bone, which is the focus of infection. That the radius should be so treated I suppose none would gainsay; but the possibility of having a stiff enough articulation between the ends of the radius and humerus, or there being no reproduction of bone from the ulnar periosteum, so as to procure an artificial joint, therefore allowing the end of radius to hang off loose from the end of the humerus, like the end-

stick of a flail, might deter some surgeons from making an excision of the ulna. But should such an untoward result ensue, the radius could be removed at the elbow-joint, after a sufficient time had elapsed to prove that it would remain useless; or, possibly, be in the way. Such an operation would be one of comparatively little danger, as only soft tissues would be involved in the incision, and the patient would receive the benefit of the doubt.

The following case will illustrate my meaning: October 18, 1881, George Mullican, a robust countryman, aged 26, while out hunting discharged one barrel of his gun while dragging it after him in the brush. The charge of duckshot passed through the left wrist and lower arm, leaving the hand attached to the arm by only a few mangled tendons, and an anterior and posterior strip of skin. He walked some four miles to a railroad station, and came to the city on the first train, having tied a handkerchief above the wound to prevent hemorrhage. I saw him about four hours after the receipt of the injury, and amputated the arm, with the assistance of Dr. Geo. W. Connell, at St. Mary's Hospital, at the junction of the lower and middle thirds. The arteries were twisted and the flaps brought together with catgut sutures. The wound healed almost entirely by first intention, there being a very small spot at one corner that granulated. He progressed so nicely that I let him go home, ten miles in the country, on the 31st of the month. I met him almost every day for awhile, as he would come into the city in the morning and return home in the evening.

The night of November 21st he went to a dance, and remained up nearly the whole night. The next morning, feeling very badly, he concluded to come into the city and see me. He went to the railroad switch, where there was no depot, but where the trains stopped for passengers. The day was very cold and rainy, and the train was an hour and a half behind time, so by the time the train arrived he was thoroughly wet and chilled. When he got to my house he had a high fever, and the arm was quite painful. He was sent to St. Mary's Hospital. When I called to see him in the evening the right lung was hepatized, and he was raising rusty-colored sputa with the cough he had. Rigors ensued, with copious sweatings. The stump became greatly swollen and suppurated freely. Shreds of connective tissue came away, and the cicatrix at the end of the stump gave away, leaving the ends of the radius and ulna exposed. The ulna was discolored, eroded; and the discharges from it were quite offensive. A sinus opened just to the inner side of the coronoid process. Appetite was gone, tongue was dry, and there was a pinched appearance of the face, with occasional delirium. Having just completed the reading of Mr. MacNamara's most excellent book, I lost no time in putting his advice to the test. November 29th, after carefully examining both bones, and finding the radius perfectly sound, I decided upon removing the whole of the ulna, which was done with the efficient aid of Dr. G. W. Connell. The bone was so eroded that it was almost divided, and had lost at least half its original weight. All this destruction of bone in one week!

The delirium left him immediately after the operation; the dulness of the lung gradually passed away; but the rigors still continued, though much less severe than before. There remained hepatic enlargement and pain, with a continuation of the sweating. Thinking that I detected deep fluctuation in the liver, just at the lower edge of the ribs, I passed an aspirator needle three inches deep into its substance, at about the outer end of the eleventh rib, December 7th, when about a drachm of seropurulent fluid was obtained—nothing more. The next day his side was free of pain, and after this the hepatic enlargement gradually disappeared without further pain.

December 24th he left the hospital, still having some night-sweats, and greatly reduced in flesh. The wound in the arm was healed, and the joint stiff. My advice was to move the joint as much as possible, as soon as the tenderness would permit. He gradually recovered his health, and the joint became more and more useful. There does not seem to be any reproduction of the ulna, but in its place there is fibrous tissue that answers the place of the bone very well. This tissue may eventually

Diagram showing the extent of flexion and extension possessed by the arm.

ossify. He can hold a fork in the flexure of his elbow when carving his food; uses the radius to hold his lines when driving horses; and, in fact, finds the arm very much more useful than it would have been had it been amputated above the condyles of the humerus, or even at the joint. The accompanying figure, from a photograph taken a few days since, shows the result of the operation.

THE REDUCTION OF CANE-SUGAR BY HYDROCHLORIC ACID AND BY GASTRIC JUICE.

BY A. M. BLEILE, M.D.,
LECTURER ON PHYSIOLOGY, STARLING MEDICAL COLLEGE, COLUMBUS, OHIO.

WHILE conducting a series of experiments having for their object the behavior of intestinal juice, *i. e.*,

glycerine extract of intestinal mucous membrane, in fluids of various reactions, I noticed that in all cases where HCl was used there was a decided action on cane-sugar. Even in juices, which were almost inert as regards cane-sugar in neutral or alkaline solutions, I always had a decided grape-sugar reaction in fluids acidified with HCl, and the greater the acidity the better marked was the reaction. The reducing sugar resulting from the digestion of cane-sugar is called grape-sugar mainly because it reduces copper salts in alkaline solutions.

From later researches carried on by a number of authors it is somewhat doubtful whether the sugar formed in digestion from starchy matters or cane-sugar, is grape-sugar or another sugar corresponding with the former merely in several of its reactions. Indeed, Claude Bernard, who first pointed out the power of intestinal juice to convert cane-sugar, stated that the resulting substance was a mixture of dextrose or grape-sugar and levulose. The term grape-sugar is therefore used provisionally only in this paper. This constant production of grape-sugar in acid solutions of course led to the proposition that HCl was the active agent.

It is well known that a solution of several per cent. HCl will reduce cane-sugar at the boiling temperature, but as to its effect in much greater dilution, and at a lower temperature (40° Cent.), I could find no statements in the literature at my command, and hence proceeded to investigate for myself, the process being in brief as follows: Cane-sugar solution was added to HCl, of such concentration that the quantity of sugar solution added would bring out the desired per cent. of acid in the resulting mixture. .5 gr. of cane-sugar in 20 c.c. of mixture was the usual proportion, being equal to 2.5 per cent. of cane-sugar, or 2.62+ per cent. of grape-sugar in case it should all be converted into this substance. The per cent. of HCl in the different mixtures was varied as stated in the table below. Tubes charged with such solutions were then placed in the digestor, kept at a temperature of 40°–41° Cent., and their contents examined at given times, as seen in the table.

Percentage of Grape Sugar Found.

HCl per cent.	.15 per cent.		.2 per cent.		.3 per cent.		.5 per cent.		.6 per cent.		.75 per cent.		
	Acid. .35	Juice. .31	Acid. .67	Juice. .67	Acid. 1 11	Juice. 1.15	Acid. 2.08	Juice. 2.06	Acid.	Juice.	Acid. 2.38	Juice. 2.38	1 hour.
Sugar in per cent.	.73	.86	1.43	1.50	1.67	1.72	2.18	2.25	2.41	2.46	2 44	2.50	3 hours. Time.
	1.07	1.11	1.79	1.73	2.22	2.18	2.44	2.44	2.44	2.50	2.60	2.60	5 hours.

The quantitative analyses were made by Prof. C. C. Howard with painstaking accuracy, and can be thoroughly relied upon. The Fehling method was the one used for these determinations.

HCl in even greater dilution than any indicated in the table will reduce cane-sugar under the same conditions. As shown by simply qualitative tests so little as .005 per cent. of HCl will give an appreciable quantity of grape sugar in about two hours.

Seeing from these experiments with what facility cane-sugar is reduced at the body temperature by very dilute acid, it suggested itself that the gastric juice, containing as it does free HCl, would have a similar effect unless indeed its pepsin or some other constituent would materially alter the process.

Another set of experiments was made, comparing pure acid solutions with artificial gastric juice (glycerine extract of stomach) of the same titre. From these it appears that the pepsin has no effect whatever, the quantities of grape sugar obtained in parallel cases being sufficiently close to be accounted for by the unavoidable errors of analysis.

Natural gastric juice, as obtained from the dog through a gastric fistula, has a speedy reducing action on cane-sugar, as I have already stated in a paper read before the Ohio State Medical Society. The inference is that the action here as in the artificial juice is due to the free acid. Certainly, the more marked the acidity, the more speedily is the grape-sugar to be found. Occasionally a juice is obtained very slightly acid, especially after the animal has been used for several days in succession and the stomach considerably irritated, which does not reduce cane-sugar, nor does it however have any action on fibrin. The mucus which sometimes flows from the fistula in abundance at the beginning, and which is said to slowly reduce cane-sugar (Foster), can be easily separated from the pure juice by filtration.

Quantitative experiments, whether it is the acid in the natural juice, too, to which the reduction must be ascribed, and whether any modifying influences come into play here, are now in progress and will be communicated in due time.

I am led to make this preliminary statement from the fact that Leube (*Virch. Arch.*) has recently, but after the preparation of my paper referred to above, announced that the human gastric juice also reduces cane-sugar.

The commercial cane-sugar I find is totally unfit for these experiments, as all obtainable samples already contain a notable quantity of grape-sugar; crystalized sugar in the shape of rock candy, however, can readily be obtained free from such admixture.

REMITTENT FEVER IN THE SOUTH.

BY FAIRFAX IRWIN, M.D.,
PASSED ASSISTANT SURGEON, UNITED STATES MARINE-HOSPITAL SERVICE.

REMITTENT fever, or as it is popularly called on the Cape Fear, "river fever," is so common, and aside from its dangerous character, so expensive to ship-masters and owners that a few remarks on its character and treatment will not seem out of place, especially at this its chosen season. This article is based on the results obtained from the treatment of ninety cases of remittent fever during the past

eighteen months, all of which have recovered with an average duration of treatment of about nine days per man.

These cases were all treated in the Marine Hospital in Wilmington, N. C., and were, as a result, in a very favorable situation for observation. To the treatment, followed with little variation in all cases, the favorable result is attributed. That too much is not claimed will be readily allowed by any who are acquainted with the character of the malarial fever in this region, and especially when it is remembered that this disease is clinically the same as the bilious fever of thirty or forty years ago, which was itself so fatal.

The river fever is seen but in isolated cases before August, and from that time increases in virulence until the kindly hand of frost is laid upon it.

The most severe cases are seen among the sailors, especially those unacclimated, and is directly traceable to exposure at night to the poisonous exhalations from the rice fields along the river. The sailors sleeping upon the vessel-decks on warm nights are soon attacked, while the captains sleeping ashore usually escape entirely. Seamen from foreign vessels fall an easy prey, and give the largest percentage of malignant cases.

It is not to be forgotten, however, that sailors in addition to exposure are usually filthy in their habits, reckless and dissipated to a degree. Before passing to a short sketch of the natural history of this fever, it may be well to refer to a common idea held by seafaring men, that salt water "brings out the fever," a vessel after remaining for ten days or two weeks in the Cape Fear River usually drops down to Smithville at its mouth, to complete loading, and here frequently, after having been healthy all of the time spent above, the crew succumb almost suddenly to fever, hence the notion of salt water "driving it out." I believe this is nothing more than a coincidence, the outbreak of the disease after its regular period of incubation. Sailors have died at sea after leaving Wilmington, of the fever, though healthy on departure and with such malignant symptoms as to cause masters to report them as cases of yellow fever.

Remittent fever as I have seen it here, after an incubation of from ten days to two weeks breaks out quite suddenly and with alarming symptoms from the first. Perhaps in some cases a certain lassitude and weakness for a few days may precede, but as a rule the onset is sudden.

Contrary to the statement in most works on the subject, there is no initial chill; this did not occur in any of the ninety cases treated. Many men were brought into the hospital insensible, having been taken sick during the day.

The prominent symptoms were a dull, stolid countenance; weary, slouching gait; acute lancinating pains in the head and back, dull pains in the limbs, tenderness on pressure over the region of the stomach with great irritability of that organ; a characteristic tongue, large, flabby, showing indentations of the teeth, and thickly coated with bluish-white fur, rarely dry except in protracted cases, and often so large as apparently to fill the mouth. The coating was often absent, but the bluish-white tint was invariably present.

The full rapid pulse, throbbing carotids, and moist surface showed the excited circulation. The sweats were in most cases as copious and as debilitating as in phthisis. The temperature ranged from 100° to 105° (38° to 40.4° C.) on the first evening, the average being 104° (40° C.)

There was a marked tendency to congestion of various organs, especially the lungs, but an implication of the liver to any appreciable extent was not observed; the yellow hue of the skin so often spoken of in books was not seen. Albumen was not discovered in the urine in any case. Delirium was rarely present, severe cases were more apt to become comatose. The irritation of the stomach was frequently most severe and difficult to manage, everything being rejected and passing on to the vomiting of pure bile. There was no eruption.

There is little danger of a mistake in diagnosis: the season of the year, the sudden seizure, the steel-colored tongue, acute pains in the head and back, and distinctly remittent range of temperature are characteristic.

There was rarely more than one exacerbation, owing, it is believed, to the large doses of quinia used. When a second exacerbation followed, it was always found to be due to an insufficient use of quinia. In the whole number of cases treated there was little variation of symptoms, but a few interesting exceptions may be mentioned.

Epistaxis was somewhat common and one case required plugging of the nares to prevent exhaustion from loss of blood. Hemorrhages from the bowels was present in a case which lasted two weeks; there were no other symptoms of typhoid fever, however. One case so strongly simulated cerebro-spinal fever as to leave the diagnosis in doubt for a few days; there was well marked opisthotonos, but recovery followed in due course.

A case in private practice seen in consultation with Dr. Geo. G. Thomas, of Wilmington, had the Cheyne-Stokes' breathing perfectly, and presented the appearance of approaching dissolution. Large doses of quinia were being given but the disease had advanced so far before advice was asked for that it seemed as if the nervous system would be overwhelmed by the poison before the remedy had time to act. A blister was applied to the back of the neck and atropia sulphate (0.0010 gramme) given every three hours, with good effect, and recovery followed. Atropia was given to counteract the slow spasmodic breathing; the *besoin de respirer* being almost absent, as in opium poisoning.

The *treatment* used in the ninety cases to which this paper chiefly refers was based on the principle that remittent fever is caused by a poison now known as malaria, which is present in almost overwhelming degree, and to which quinia is a direct antidote if used in large doses.

Cases showing the usual evening temperature of 40° C., and upward were given from 30 to 45 grains (2 to 3 grammes) of quinia sulphate, usually in solution with dilute sulphuric acid, and largely diluted with ice water. As the stomach in many cases was

so irritable as to reject this really nauseous dose, the quinia was then given in pills freshly made with glycerine; when these were rejected, as was often the case, the drug was administered hypodermically, the dose in this case being from 10 to 15 grains (0.666 to 1 gramme). The solution for hypodermic use was made with citric acid, and although many times used, no abscess ensued in any case.

This large dose almost invariably reduced the temperature from one to three degrees by morning, the quinia was then given in doses of 5 grains (0.333 gramme) thrice daily, and the large dose again repeated at night if the temperature rose. This method, with a few exceptions, cut short the fever in from three to five days, as the average duration of nine days for the whole number of cases will show. Some, especially where there was an existing organic disease, were more rebellious, and required large quantities of quinia before convalescence was established.

As much as 465 grains (30 grammes) of quinia were given in eight days in two different cases, and no ill effects were observed; in fact in no case did quinia cause any disturbance beyond deafness which soon passed away under cessation of the drug and small doses of hydrobromic acid. Dimness of vision was never complained of.

If the bowels were inactive, an enema was given at once, but no preparatory treatment was ever used. As the skin and kidneys were active, opium or diaphoretics were not called for. To moderate the heart's action fluid extract of aconite-root in one drop doses every four hours was given in most all cases; this, with ice compresses to the head, was about all the treatment.

The irritable stomach was best controlled by creasote or vin. ipecac. (5 minims) 0.333 cc. every two or three hours.

Rigid milk diet was given and no stimulants used. It is desired to insist upon the needlessness of the almost universal custom of preparing the system for the action of quinia, much valuable time is lost in an unnecessary procedure and it is thought that opium is positively contraindicated by the symptoms.

In conclusion, the fact should not be lost sight of that remittent fever is eminently a disease to be prevented. While vessels are in the river, the crews should be required to sleep ashore. Captains should be furnished with clinical thermometers with instructions for their use, and on the first indication of fever, a dose of at least 30 grains (2 grammes) of quinia should be given.

The total number of cases observed during eighteen months was ninety, total number of days treatment four hundred and forty, average per patient nine and one-third days.

HOSPITAL NOTES.

VIENNA GENERAL HOSPITAL.

(Service of PROF. CARL BRAUN.)

CÆSAREAN SECTION WITH SUPRAVAGINAL AMPUTATION OF THE VAGINAL PORTION BY PORRO'S METHOD.

(Specially reported for THE MEDICAL NEWS.)

THE fall semester of the Vienna Medical School has commenced in all departments with unusual brilliancy. Upon the second day of the new term, October 17th, Prof. Carl Braun performed a Cæsarean section, Porro's method, before his class, upon the person of a dwarf.

The patient, a native of Austria, thirty-six years old, married, was received into the wards during September in her *eleventh pregnancy*. The history of the case, as collected from the records of the three obstetrical clinics of the General Hospital, is briefly as follows:

The members of patient's family, with exception of herself, were perfectly healthy; three sisters, who are now living in the country, are in a normal condition.

In 1866, the patient came to Vienna to live; in 1869 she became pregnant, and was delivered, in the eighth lunar month, of a child, which is living to-day; instrumental aid was required in this labor.

She married in 1871, and became pregnant in 1872; the second pregnancy resulted in an abortion in the sixth month, during convalescence from an attack of typhus. Since 1873 she has suffered more or less constantly from "gout" ("gicht"), and has aborted in each of her succeeding pregnancies, until the present one, before the sixth month.

The patient was a dwarf, of delicate frame, was unable to walk, and could not move her upper extremities without pain; she was greatly emaciated; the bones were soft, somewhat pliable, and very sensitive, although she did not present to view as high a degree of *osteo-malacia* as one frequently observes in Austria,

When lying flat upon her back she was comfortable. A remarkable degree of intelligence was evinced throughout her stay in the hospital.

She stated that her last menstruation occurred about January 25th. Examination by abdominal palpation confirmed her statement, revealing pregnancy in the ninth lunar month, head presentation; combined external and vaginal exploration revealed an osteomalacic pelvis possessing a high degree of asymmetrical contraction, constituting a "three-cornered pointed heart figure" (dreiwinkelig spitze herzfigur), classified by Braun under the category of "more rarely occurring contracted pelvis."

The right sacro-cotyloid diameter or microchord of Ritgen measured 4 cm.; the left microchord measured 3.5 cm.; the normal length of each microchord is 8 cm. The horizontal branches of the pubes were prolonged forwards into a beak-like process, and measured between their bases 3 cm.; the transverse diameter of the pelvic entrance, measured through the promontory, was between 9 and 10 cm. The *conjugata vera* measured 8.5 cm.

The patient was at once isolated, given special diet, and preparations were made for Cæsarean section.

About 6 o'clock P. M., October 17th, the bag of waters ruptured, and active labor pains speedily followed.

Prof. Braun was summoned, and three hours later, assisted by Drs. Massari, Felsenreich, and Pritzel, performed Porro's supravaginal amputation of the vaginal portion, with Müller's modification. An interval of 30 seconds elapsed between the primary incision into the uterus and the removal of child and placenta.

The child cried lustily upon emerging from the uterus, proved to be a male, with a weight of 2800 grammes, and a length of 49 cm. The child, when last heard from in the Foundling Hospital, much to its father's disgust, was in a very vigorous, thriving condition.

After the pedicle had been carefully ligated, beneath the chain of Billroth's écraseur, this instrument was removed and replaced by the same surgeon's ovariotomy clamp. The stump was then thoroughly cauterized with Paquelin's thermo-cautery and the ovariotomy clamp was removed. A second set of ligatures were applied through the first system, in such a manner as to secure an approximation of the peritoneum of the

pedicle, upon all sides, over its raw surface. The pedicle was about to be returned to the abdominal cavity, when bleeding was noticed. The stump was again compressed by the ovariotomy clamp, both sets of ligatures removed, and reapplied.

After waiting some time, and noticing no recurrence of the hemorrhage, the *toilette* of the peritoneum was quickly performed, the pedicle returned to the abdominal cavity, and the abdominal incision approximated by the usual deep sutures of the lead-plated silver wire, and superficial silk stitches.

The woman reacted after the operation fully, and very little evidence of shock was perceptible.

The first day, after the operation, passed without moment; temperature being 37° C.; upon the second day, the patient commenced to vomit, and temperature rose to 38° C.; upon the third day, morning temperature was 39° C., evening temperature, 37° C.; upon the fourth day, towards evening, the woman died, with temperature of 38.6° C., and with all the symptoms of acute septic peritonitis.

The *autopsy*, conducted next morning, by Prof. Kundrat, revealed the usual lesions of acute septic peritonitis. In the cul-de-sac of Douglas, two or three ounces of bloody pus were visible. The plexus pampiniformis venosus, upon the left side, was filled with thrombi, and distended to the size of a large thumb.

Upon the right side of the stump, several ligatures had become loose, and hemorrhage into the cul-de-sac of Douglas had evidently occurred from the right plexus pampiniformis venosus, giving origin, doubtless, to the septic peritonitis.

Prof. Braun, in his remarks to the class, in the light of the autopsy, stated very emphatically that he would never again treat the pedicle of a pregnant uterus by the intra-peritoneal method. He was equally positive in asserting that the pedicle of uteri, amputated on account of fibroid tumors, should be treated by extra-peritoneal fixation. Prof. Braun quoted his brother, Prof. Gustav Braun, as fully concurring with himself upon the subject. The latter lost a very promising case after the same operation, last spring, from secondary hemorrhage.

Prof. Carl Braun has performed Porro's operation nine times. In eight cases the pedicles was treated by the extra-peritoneal method, and five recoveries were recorded. These five cases are living now in Vienna, and are exhibited annually at the clinic. The ligatures in Prof. Braun's last case were of strong silk, prepared antiseptically, and were most carefully applied.

MEDICAL PROGRESS.

NEW OPERATION FOR SALIVARY FISTULA.—At a meeting of the Cincinnati Academy of Medicine held on October 30th, DR. J. L. KROUSE reported a case of salivary fistula, stating that it was of interest on account of the operation employed being different from that usually mentioned in text-books, and on account of its favorable result.

The patient, a girl of five years, four months ago injured herself by falling upon a sharp piece of wood, which entered her cheek. The greater part of the foreign body was removed at the time of injury; but subsequently several smaller pieces came away. The wound discharged all the time, and not seeming to get any better, the mother brought the patient to the clinic of the Medical College of Ohio. Here the speaker saw the patient for the first time. She presented on the left cheek, midway between the angle of the mouth and the concha of the ear, a linear cicatrix, vertical in direction, of 1½ inches in length. At the upper border of the same, there was a large vesicle filled with turbid fluid. This, the mother said, would burst every now and then, discharging the watery contents over the cheek. As long as there was a free outlet to the secretions, the patient complained of no disagreeable symptom; but when the opening closed, then pain as well as swelling of the parotid region supervened.

On August 4th, that is three months after the receipt of injury, he operated by passing a silver wire armed with two straight needles through the external opening into the buccal cavity. The free ends of the wire were then twisted in the mouth and the external wound closed.

The object of the wire was to maintain an opening between the injured duct and the buccal cavity; it was allowed to remain there until the external wound had closed.

On September 5th, thirty-two days after the operation, the wire was removed. The recovery was perfect. The last time that the patient was seen was on October 24th, seven weeks after removal of wire. At that time the wound was still closed.—*Cincinnati Lancet and Clinic*, November 18, 1882.

[This operation is essentially the same as that described by Richelot. See THE MEDICAL NEWS, Aug. 12, p. 180. The elastic ligature is to be preferred on account of its greater rapidity of action. The whole method is however not new, being described in the French classics as the method of Deguise.—ED.]

ADVERSE OPINIONS ON TRANSFUSION.—PROF. VERNEUIL recently objected to the operation as a dangerous one, from which he had never seen any ultimate good derived, while the advantages which are said to attend its employment are obtainable by the hypodermic injection of ether. Recently, also, at the German Congress at Eisenach, Prof. König, of Göttingen, observed (*Berliner klin. Woch.*, October 2) that formerly he was a warm advocate of transfusion, but that he has come lately, like the majority of living surgeons, to think little of it. He has only quite exceptionally, and perhaps never, seen a favorable result follow its use, while from the injection of ether good effects are sometimes obtained. He therefore warns us not again to fall into the former prevalent transfusion-deception (*Transfusionsschwindel*). Prof. Schede stated that he was of much the same way of thinking as König, and now resorted to transfusion much seldomer than formerly. —*Med. Times and Gaz.*, Nov. 11, 1882.

A NEW TREATMENT OF DIABETES.—ADAMKIEWICZ believes that protein, the fundamental substance of the organism, may be regarded as being composed of sugar and ammonia, less some elements of water and oxygen. Consequently, if one could fix the excess of sugar present in diabetics by means of ammonia, we would have a chemical physiological treatment.

In his first series of experiments made on healthy men at the Berlin Charité, he arrived at the following conclusions: The chlorhydrate of ammonium is not decomposed in the intestinal tube of healthy men. The greater part of the ammonia absorbed with the chlorhydrate, disappears in the healthy body and probably appears in the urine in the form of albumen. The chlorhydrate of ammonium acts in the healthy body in about the same way as the chloride of sodium: it dehydrates the tissues and favors the decomposition of albumen. The decomposition of albumen and the excretion of albumen do not advance in parallel lines.

In his second series of experiments made on diabetics, he found that the ammonia disappeared rapidly, and that this assimilation coincided with a disappearance of sugar, and in slight cases the excretion of sugar might be entirely suspended. When the sugar does not disappear, the ammonia absorbed into the

system of the diabetic neither increases the quantity of water or urea; while when the sugar is absent the excretion of water is greatly augmented, proving that part of the ammonia is transformed into urea, and as such eliminated.—*Rev. de Thérapeutique*, November 1, 1882.

THE RELATION OF CHOREA TO RHEUMATISM.—MR. EDWIN RICKARDS read a paper before the Section of Medicine at the last meeting of the British Medical Association, whose purport was to support the view that chorea is a functional disease of the brain. From observation of a large number of cases, of many of which he has records, he has been led to believe that chorea occurs exclusively in individuals of an excitable nervous temperament, and at a time of life when the mind is least stable; that it may arise solely from excessive nervousness, which is frequently brought to chorea-point by fright, or some condition calculated to produce nervous debility. The fact, that mental disturbance is a potential cause of chorea, is, to his mind, presumptive evidence that it is the constant cause. In three of his cases, choreic movements followed the occasion of excitement within twenty-four hours. Now, if organic changes were brought about in so short a time, it is reasonable to suppose that, in protracted cases, terminating fatally, constant grave structural alterations would be found. Such, however, in his experience, is not the case. The proposition, that chorea is caused by mental disturbance, is supported by the fact, that the movements are to a variable extent under the control of the will; and when the mind is at rest, as in sleep, cease. The shifting, too, of the movements, seems to contraindicate any fixed lesion. It might be urged, Why does not fright more frequently cause chorea? To this objection, he would reply, that an attack of chorea from fright is determined by the nature of the terrifying agent, and the mental constitution of the individual. A trivial incident may seriously impress a nervous child, while a child who is not of a nervous temperament might not be shocked by a far more formidable occurrence.

And, now, as to the connection between chorea and rheumatism. The causal relationship between these two diseases must, at present be purely speculative, as the etiology of rheumatism is as yet undetermined. He is inclined to think that we must look to the nervous system for the primary cause of that disease. It seems to him probable that functional nervous disorder may lead to blood changes, which give rise to the symptoms indicative of rheumatism; and, if this were so, we should have a common cause for the two diseases. He has been much impressed by observing what nervous temperaments rheumatic patients possess —how great is the nervous debility during and after an attack; it is out of all proportion to what might be accounted for by the pain they suffer, and the *regimen* they undergo. His experience, up to the present time, has led him to the conclusion, that valvular disease of the heart is associated with chorea only through rheumatism. Four, and only four, chorea cases have been admitted into the hospital under him without heart-disease, and discharged from it with damaged valves. In these four cases, the endocarditis was accompanied by well-marked symptoms of acute rheumatism. In no one instance has he seen valvulitis develop in a choretic patient unconnected with rheumatism.—*British Medical Journal*, November 11, 1882.

PRECAUTIONS TO BE TAKEN AS REGARDS TYPHOID FEVER.—The Hygienic Council of the French Académie de Médecine have drawn up the following instructions to be observed when the presence of typhoid fever is recognized.

1. *Isolation.*—The patient should be isolated as far as possible from the other inhabitants of the house; if complete isolation is not possible, the patient should be taken to a hospital. If the patient remains in his home, only those persons who minister to his wants should have access to his chamber, while all children should be rigidly excluded. Nurses should wash in carbolized water; one per cent.

2. *Aeration of the Chamber.*—A room should be selected which can be readily aired. The hangings, curtains, and carpets should be removed, and the bed placed in the centre of the room.

3. *Disinfection of the Evacuations.*—All the ejecta of the patient, before being thrown out, should be thoroughly disinfected with a solution of chloride of zinc, 20 per cent. The privies into which the evacuations are thrown should also be flushed with this solution.

4. *Disinfection of Clothing.*—All the patient's body and bed-clothing before being removed from the room should be plunged into a solution of carbolic acid, 5 per cent., and then immediately washed.

5. *Disinfection of the Room.*—After the death or cure of the patient, charcoal should be burnt in the room with sublimed sulphur, and the chamber should then be closed for twenty-four hours. The chamber should then be washed with carbolized water, and not re-occupied until it has been freely aired for at least a week.—*Gaz. Hebdomadaire*, November 3, 1882.

THE DIAGNOSIS OF SYPHILIDES.—The diagnosis of syphilides is not at all times an easy matter, and any contribution to the literature of the subject will always be acceptable. DR. MAURIAC, Physician to the Hôpital du Midi, the well-known hospital for venereal affections in the male, delivered a very interesting lecture on the subject which may be summarized as follows: In giving a description of the topography of syphilides, Dr. Mauriac observed that their distribution on the different regions of the body presents certain peculiarities which are not found in other affections of the skin. Erythematous syphilide is found principally on the trunk and flanks, on the inner parts of the limbs, and on the flexor more than on the exterior aspect. The papular form has its seat of predilection on the face, the alæ of the nose, and on the forehead at the roots of the hair, the upper part of the neck, the trunk, and on the limbs in all directions. The scaly forms, with all their varieties, invade principally the palms of the hands and the soles of the feet. Pustular syphilides, superficial or impetiginous, affect the scalp, the beard, and, in general, the regions covered with hair. Ecthyma and rupia attack by preference the limbs, principally the lower limbs. As for tubercular eruptions, they are disseminated all over the body. Thus, it may be seen that syphilitic eruptions may affect the entire cutaneous covering of the body. There are, however, some parts of it which would seem to form exceptions to this rule, such as, for instance, the clavicular and sternal regions, where simple and parasitic eruptions are so common. The same may be said of the back of the hand, and this remark is particularly applicable to the exanthemata. Papulo-squamous eruptions are never seen on the limbs on the extensor surface, at least systematically, as is the case with one of the most common and most typical of non-syphilitic eruptions, psoriasis. The natural orifices, the commissures of the lips, isthmus of the fauces, orifices of the nostrils, the vulva, and anus, are the seat of predilection of the earlier syphilitic eruptions, and, among others, mucous patches are there particularly noticed. The circular forms of simple erythema may be found on all parts of the body; whereas the same forms of erythemato-papulous syphilides affect

by preference the chin, the cheeks, forehead, the neighborhood of the anterior and internal parts of the limbs, and the buttocks. The syphilides appearing later and affecting the tissues deeply are generally situated on the nose, lips, scalp, the sternal and clavicular regions, the buttocks, and more frequently on the legs near the joints than on the thighs.—*Lancet*, November 11, 1882.

Trismus of Cerebral Origin.—Prof. Lépine reports the case of a woman who died of cerebral apoplexy, who as the sole convulsive symptom had persistent trismus from the onset to the termination of the disease. At the autopsy there was found a small hemorrhagic foyer in the gray matter of the insula and at the foot of the ascending frontal convolution. This is the point whose excitation in monkeys causes movements of the jaws.—*Rev. de Méd.*, October 15, 1882.

Case of Carcinoma of the Stomach with Progressive Anæmia.—The following case occurred under the care of Dr. Barlow, in University College Hospital, London: Eliza H., aged fifty, was admitted on August 4, 1880. She sought relief for vomiting and loss of flesh. There was no hereditary history of cancer. The patient had enjoyed fairly good health, except for occasional "bilious" attacks, till nine months previous to admission, when she first began to lose her appetite and suffer with sickness, especially after food. From this time till the present date she had rapidly got worse, and her friends had noticed the great wasting and peculiar sallowness of her complexion. She had not long since vomited black matter, and her stools she had noticed were at times black.

Condition of Patient when first seen.—Sallow, cachectic complexion; great emaciation; the skin lying in loose folds all over the body. Very marked anæmia shown by the lips, conjunctivæ, and finger-nails. The superficial veins were not unduly distended. She had fairly good teeth and could masticate her food well, and there was no difficulty in swallowing. Though troubled with frequent vomiting, she complained of no pain, nor was there any tenderness over the abdomen on palpation; but a small hard tumor about the size of a pigeon's egg could be felt between the umbilicus and ensiform cartilage. This tumor, which could be felt lying in front of the spine, with its long axis transverse, did not pulsate, and only caused slight pain on pressure. The lower border of the liver could not be felt, and there was an intestinal note obtained on percussion over the lower two inches of the hepatic region in the nipple line. The spleen was not enlarged. The lungs were fairly healthy, nor was there anything noticeable with the circulatory system beyond feeble heart-sounds with reduplication of the first, and a small, compressible, weak pulse. The genito-urinary system was normal, as far as could be ascertained by symptoms and the examination of the urine.

On August 17, the blood was examined microscopically. The corpuscles were irregular in shape, many were smaller than natural, and they were all very deficient in coloring matter. They had a great tendency to run together—not into *rouleaux*, but to form an irregular fused mass. The white corpuscles were not greatly increased, but the red were very much diminished. When enumerated by means of Dr. Gowers' hæmacytometer, they were found to be only 32 per cent.

The patient daily became weaker, and the corpuscles diminished in numbers; on August 27 they were only 30 per cent. The vomiting still continued, and the emaciation and anæmia increased. On September 26 the proportion of red corpuscles was reduced to 26 per cent., and the hæmoglobin only 11 per cent.

On September 27 she insisted on going home.

It was ascertained afterwards that the patient had been taken to Guy's Hospital, where her extreme anæmia was noted as the marked feature of the case. She died in a very short time, and at the post-mortem examination, which was made by Dr. Peter Horrocks, a scirrhus of the pylorus was found without ulceration, and a small cancerous mass in the uterus.

Note (by Dr. Barlow).—The special features of this case was the intense pallor, so that but for the detection of the small mass, proved afterwards to be scirrhus of the pylorus, it might have been considered one of idiopathic anæmia. It is important to bear in mind that there was no ulceration of the mucous membrane. The benefit derived, during the few days of its administration, from the pancreatized oatmeal-gruel recommended by Dr. William Roberts was most striking, and if only the patient had been willing to persevere with it she might have been saved a great deal of distress. In another similar case this preparation was used with the greatest advantage for over two months, during the early part of which there was very marked improvement in general nutrition; but the patient ultimately succumbed, with extensive deposits in other organs.—*Medical Times and Gazette*, November 11, 1882.

Palpebral Chancre.—M. Delapersonne (*Arch. d'Ophthal.*) of the ophthalmic clinic of the Hôtel Dieu, contributes a didactic article on the etiology, physical characters, symptoms, diagnosis, and treatment of chancre of the lid, with a brief analysis of two cases occurring in the service of M. Panas, Hôtel Dieu, in 1881, and of a case of M. Fournier. Some of the major observations that have from time to time been made by Gælezowski, Panas, Ricord, Julien, Wecker, Desmarres, Mackenzie, and others, are referred to for the assistance of the bibliophile in this department of ophthalmic study. While the author does not deny the possibility of a simple chancre of the lid, he dwells upon its rarity, and emphasizes the only true support such diagnosis can have, viz., its physical characters, and the absence of secondary symptoms, even several months after the healing of the chancre. The etiological factors are here, as in the general sphere, hard to prove. Contagion can be attributed to the projection of saliva, or to fluids charged with syphilitic virus. Patients usually have a ciliary blepharitis antecedent to an ulcer or little ulcerations of the free border of the lid. Phenomena of inflammation are wanting. Patients complain of no pain, nor labor in lid-movements, nor of lachrymation, nor perhaps of deformity.

The physical characters of lid-chancre are variable according to their seat. The most common habitat is the inferior lid, either the cutaneous surface or the free border. As a special adenopathic involvement, the preauricular ganglion takes precedence; after this, the ganglia at the angle of the jaw, and the submaxillary region. It is well known that the lymphatics of the lower lid and inner canthus find their way through the facial vein into the submaxillary and sterno-mastoid ganglia.

When situated at one of the commissures, the chancre takes the form of a fissural ulcer, precisely limited by the free border; on this account the diagnosis may be misconceived, the ulceration being like that following a chronic dacryocystitis. The induration and ganglionic engorgement will prevent the error.

Most rarely the chancre occupies the internal surface of the lid. Inflammatory symptoms are here the most intense, as conjunctivitis, corneal ulceration, and iritis.

After the cicatrization of the chancre, induration persists, even to the concealment of the lachrymal puncta, and their obliteration. Cicatricial bands may unite

the two folds of conjunctiva, and constitute a true symblepharon, with results even more serious than the chancre itself.

The diagnosis of lid-chancre is to be eliminated from that of a furuncle, chalazion, lupus, and cancer. The last has an irregular, slightly elevated border, field covered with papillæ, the skin cut out at the circumference, cauliflower in its appearance, and easily bleeds. An invaluable distinctive mark of cancer is the advanced age of the patient, and exceedingly slow march of the sore.

In order to attain the size of a chancre, an epithelioma of the lid sometimes occupies several years.

More difficult is the diagnosis of chancre from lupus, which it most resembles; but the less rapid advance of lupus, its occurrence in young persons, and the absence of lymphatic involvement usually suffice as characteristics of distinction. As a final test of diagnosis, the sore thould be inoculated elsewhere on the patient, and the latter be kept under observation for several months.

Three cases are adduced in brief summary.—*Arch. of Dermatol.*, October, 1882.

The Traumatic Origin of Loose Bodies in Joints.—In France, and Germany especially, the statement that in falls and blows upon the knee or other joint a portion of the normal articular cartilage and bone can be broken off and remain in the joint as a "loose body," has met with much opposition. In England this view has met with more general acceptance, and in modern special treatises and text-books no doubt is thrown upon it. On the one hand, cases are cited where persons with apparently perfectly healty joints have after a fall or other severe local injury shown all the symptoms of "loose body;" and it has been found in some cases that corresponding more or less exactly with the outline of the loose body is a gap in the joint surface of the femur and tibia. On the other hand it is alleged that in these cases, although there may have been no previous signs of joint disease, there were really outgrowths from the articular cartilage that were broken off by the injury. In the gradual enlargement of these supposed outgrowths, the pressure upon the opposed joint surface has caused its absorption to an extent corresponding to the size of the outgrowths. This view will be held by most surgeons to be fanciful, and not to accord with the most simple and straightforward interpretation of the facts, and it has been rejected in this country. M. E. Poncet, of Ciuny, has approached this question from the histological point of view in a paper in the last number of the *Revue de Chirurgie*. Here he states that in capsular "arthrophytes" a gradual transition from cartilage through fibro-cartilage to true bone is not unfrequently met with, that there is sometimes calcification of the fibro-cartilage quite distinct from true bone, that in all specimens a hilus or remains of a pedicle are to be seen, while in none is there any capsule of newly formed fibrous tissue surrounding the loose body. In true traumatic "arthrophytes" he found, on the contrary, no hilus or sign of any pedicle, but the body was surrounded by a thin cortex of newly formed fibrous tissue, while a section showed that the line of separation of the bone and cartilage was sharp and abrupt, and without any intermediate zone of fibro-cartilage. The bony matter, too, was always placed to one side of the body, and was never completely surrounded by cartilage, but partially in immediate contact with the cortex of fibrous tissue which was found to be histologically continuous with the cell tissue in the cancelli. These observations certainly afford a further proof that "arthrophytes" may be produced by injury to previously perfectly healthy joints. M. Poncet advocates the removal of "loose bodies" through a sufficiently free incision, but he disapproves of the subsequent use of a drainage-tube. Regarding the drainage-tube as solely intended to prevent the exudation from the wound passing into the joint, he endeavors to secure this object by suturing the synovial membrane with fine catgut, and closing the external wound in a similar manner. As M. Poncet mistakes the object for which the drainage tube is used in such cases, his argument upon it is misleading. The tube is used to run off any excessive secretion from the synovial membrane that may be caused by the interference of the operation. M. Poncet's successful case only shows that in it this secretion of synovial fluid did not occur, and it would be rash in the extreme to argue from it to all cases of a like nature.—*Lancet*, November 11, 1882.

Artificial Feeding of Infants.—Dr. Tarnier recently read an interesting communication on the above subject before the Academy of Medicine of Paris. Although artificial feeding is considerably less common, we believe, in England and this country than in France; nevertheless there is far too much of it; and the high rate of mortality of infants under one year of age is unquestionably very largely due to the want of care in the choice and the employment of artificial foods during infancy.

Owing to the unsatisfactory nature of artificial feeding in France, the Academy placed the subject among its prize questions in the year 1878; but nothing very definite resulted from the sixteen essays which were sent in—partly on account of the uncertainty that prevails as to which is the best milk to use for the purpose. The milk of the ass, of the goat, and of the cow are the most employed. M. Tarnier contends that the milk of the ass most nearly resembles, chemically, that of woman, and has been used for a long time past, although not, indeed, extensively.

He urged on the Academy the need of initiating reform in this matter, and concluded his paper by formulating certain proposals, from which we select the following: 1. The life of young infants can only be preserved by maternal nursing. This must, therefore, be encouraged by every means in our power. 2. If the mother's milk is insufficient, it may be supplemented by other food. 3. Suckling by a wet-nurse is favorable for the nursling, but detrimental to the nurse's own child. 4. Artificial milk is much inferior to maternal milk: its use is always surrounded by considerable difficulties, however we may try to avoid them, and whatever milk we use. It should never be had recourse to except when essentially necessary. 5. To solve many of the difficulties inherent to the subject it would be well for the Academy to undertake an experimental inquiry. The subject is one of great interest, and as pressing in large cities in England as in Paris.—*Med. Times and Gaz.*, Nov. 11, 1882.

Iodide of Potassium in Skin Diseases.—Greve (*Nordisk med. Arch.*, xiv., No. 1, 1882) recommends large doses of iodide of potassium in skin diseases, especially psoriasis. He begins with a mixture of iodide of potassium, 10.00 to 300.00 water, of which he gives a tablespoonful three or four times a day. Every time the prescription is renewed five grammes are added. He always increases the strength to 30.00 iodide to 300.00 water, and has, without inconvenience, given as high as 40.00 to 300.00. As soon as the dose of one gramme is reached, an effect is produced on the skin lesion. If the dose is limited to one gramme, or one and a half, the improvement is gradual, but if the amount is increased to 2.00 or 2.50 grammes, the improvement is rather rapid. The less affected parts of the face are first cured; next, the eruption on the neck,

chest, and back disappears; and last on the extremities, where shining cicatrices often remain because of thickness of the parts. Greve has given the drug both to adults and children, and never seen any injurious effect from its administration.—*Arch. of Dermatol.*, October, 1882.

COMPLETE INVERSION OF THE UTERUS.—At the meeting of the Cambridge Medical Society, held October 6, MR. WHERRY related a case of complete inversion of the uterus. The patient was a woman who had been delivered two days previously of a healthy male child, which was born rather suddenly and with a short thick cord. She was given twenty minims of liquid extract of ergot after delivery, and shortly after this had a pain, and there was protruded from the vagina what at first appeared like the head of another child, but which proved to be the inverted uterus, with the placenta adherent. There was not much hemorrhage. The medical attendant detached the placenta and endeavored to replace the uterus by his hand, but he was obliged to desist, owing to the great softness of the uterine walls and the collapsed condition of the patient. Two days later, when called in, Mr. Wherry found the uterus completely inverted. Ether was administered, but it was quite impossible, owing to the doughy softness of the fundus, to replace the uterus with the unaided hand. Accordingly a large rubber drainage-tube was inflated to about the size of an egg at one end and ligatured. The hand, in the form of a cone, was passed into the vagina, and the finger tips, pressed against this air pad, were in no danger of lacerating the walls of the uterus. Half an hour's pressure, first with one hand, and then with the other, against the most prominent part of the fundus, at length reduced the uterus, leaving the dilated tube in the cavity. The string was then cut and the collapsed tube withdrawn. The replacement was not by a jerk, but gradual, and to be compared to the relief of a paraphimosis; it was evidently effected by squeezing fluid out of the œdematous tissues of the uterus. The patient, after three days of fever and pain in the body, made an excellent recovery.—*Lancet*, November 11, 1882.

TREATMENT OF JOINT AFFECTIONS BY ELECTRICITY.—DR. A. JOFFROY, writing in the *Archives Générales de Méd.*, says that electrotherapy is only efficacious in cases of chronic arthritis, and is contra-indicated when the acute and subacute phenomena have not disappeared, In the joint affections of progressive chronic articular rheumatism, the results are but small; and when they are successful, they may be rather attributed to rest than to electrotherapy. In chronic articular rheumatism with uncertain localization and progress, and especially in the chronic forms of arthritis, consecutive on blennorrhagia, the puerperal state, or injury, more satisfactory results are obtained. The operation consists in fixing the positive pole of a continuous current battery, with from twenty to forty elements, either on the sides or on the upper or lower portion of the swollen joint, and moving about the pad representing the negative pole over the cutaneous surface. The skin becomes red and sensitive where the pad is applied. In the successful cases, the lesions were situated especially on the tissues surrounding the joint, which were indurated and resistant. There were neither fungosities, nor osseous lesions. This clinical fact explains why this treatment does not yield favorable results in gout and in chronic articular rheumatism. It is, therefore, especially in affections of joints, produced by wounds. by the puerperal state, or by blennorrhagia, but only after the disappearance of all the acute symptoms, that the continuous current may bring on either a complete cure, or at least a rapid improvement of the circum-articular changes and the restoration of movement.—*London Medical Record*, November 15, 1882.

TÆNIA IN A CHILD SEVEN MONTHS OLD.—DR. SCHOPFF communicates this excessively rare case, occurring in a female child only seven months old, in whose fæces the proglottis of the *tænia circum rinaelliptica* were found. According to the most recent researches, the cysticerci of this tænia are found in dogs' lice, and the dogs become infected by swallowing the parasites. Consequently the appearance of this parasite can only be explained in persons who are brought into close contact with dogs. In the case reported it was found that the child had been accustomed to play with a dog affected with some skin disease accompanied by falling of the hair.—*Ann. de Gynécol.*, November, 1882.

GONORRHŒAL RHEUMATISM.—DR. W. NOLEN terminates an elaborate article on gonorrhœal rheumatism somewhat as follows: While occasionally gonorrhœa is complicated by a rheumatic affection, such cases are very rare in proportion to the immense number of cases of gonorrhœa not so complicated, and even when present, the rheumatism may be of the most diverse nature and intensity, and possesses no distinctly characteristic features. It seems to be fairly well established that when once an attack of gonorrhœa is complicated by rheumatism, it is also present in subsequent attacks, indicating the probability, in some unknown manner, of the causative action of the gonorrhœa; though it may also be held that the principal cause lies not in the gonorrhœa, but in the constitutional tendencies of the individual, the simultaneous occurrence of gonorrhœa and rheumatism being merely coincidences.—*Deutsches Arch. f. klin. Med.*, November 8, 1882.

INTESTINAL STRANGULATION; LAPAROTOMY; CURE.—In the presence of intestinal obstruction by volvulus, invaginations, or adhesions, choice must be made, according to M. LÉON LE FORT, between enterotomy and laparotomy. He prefers the latter procedure, because it, equally with the former, permits an escape of the obstructed intestinal contents, and enables the removal of the cause of the obstruction. In support of this opinion he cites the case of a young man of eighteen years, who for six days had suffered from the symptoms of strangulation. M. Le Fort performed gastrotomy under chloroform, an incision 15 centimeteres long being made in the linea alba from the umbilicus to just above the pubis; the peritoneum was then opened and the intestines carefully searched for the obstruction, which was finally found in the form of an annular constriction formed by inflammatory adhesions, about 5 centimetres above where the ileum entered the cæcum. The constriction was divided, the intestines returned to the abdominal cavity, and the wound closed. One month later recovery was complete. The antiseptic method was not employed; compresses soaked in dilute camphorated alcohol being retained in position by a body bandage.—*Gaz. Hebdomadaire*, Nov. 10, 1882.

LIGATURE OF THE EXTERNAL ILIAC ARTERY FOR FEMORAL ANEURISM.—At the meeting of the Société de Chirurgie held on October 25th, M. BERGER presented a patient in whom a popliteal aneurism had been cured by digital compression on the femoral artery. Some time afterwards a second aneurism formed on the femoral artery at the point where the vessel had been subjected to pressure in the treatment of the popliteal aneurism. Ligature of the external iliac artery resulted in a cure.—*L'Union Méd.*, October, 31, 1882.

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HOUSE-DRAINAGE.

IN a recent issue we presented the results of late investigations of the sewerage system of Philadelphia, and endeavored to illustrate thereby the defects which commonly appertain to most systems of sewerage as constructed at the present day in this country. At this time, we desire to call attention to an equally important subject, that of house-drainage, and the faults commonly connected with it, as exemplified by some of the methods pursued in Philadelphia, and elsewhere. Fresh interest has been given to the topic by the recent enquiries of Rudolph Herring, Assistant Engineer, of Philadelphia, and W. H. Baldwin, C. E., who acted under special authority of the U. S. Census Bureau. They show how, in the absence of specific sanitary regulations on the subject, the most pernicious errors creep into practice, and are repeated day by day, until at length they become more or less characteristic of the entire system.

Formerly, before the sewers were made use of for the conveyance of domestic waste, it was the custom to construct, on the lot in the rear of the dwelling and sometimes under a portion of the dwelling, deep cesspools, or wells as they are called, which were excavated down to the gravel-bearing strata, and lined, except at the bottom, with brick laid dry, so that the liquid portion of the contents might flow off through the pores of the soil. These wells were used for the deposit of excreta and chamber slops, and seldom needed cleaning on account of their depth and manner of construction. When cleaning was required, it was done by the "bucket and cart" system until recently, when the "odorless system," by means of tank, pump, and hose, was introduced in its place.

Since the introduction and common use of water-closets, there has been a gradual development of a practice of turning all the wastes of the house into these cesspools, their connection with the water-bearing strata underlying the city being depended on for carrying away the liquid portion as well as a quantity of the more finely divided solid matter. In course of time, however, the pores of the soil become obstructed, the well fills up, and has to be emptied by mechanical appliances. The constant expense and annoyance caused by this need has led to the adoption of another device, namely, that of tapping the well at a convenient level and connecting it by means of a drain-pipe with the common street-sewer, so that the overflow is discharged into this outlet. To prevent the accumulation of solid matter and the occlusion of the overflow-pipe, the rain-water and bath-water are likewise turned into the well. This is substantially the plan of drainage connected with a large number of the older houses.

But this method of disposing of sewage is not alone confined to this class of buildings. In houses of more recent construction, especially such as are called "bonus houses," the drainage arrangements are constructed upon the same principle, except that the wells are not required to be deeply excavated, nor to have pervious walls and bottom. The plan is to construct a cesspool in the rear to serve for two houses. The rain-water as well as all the sewage from the houses are discharged into it. These cesspools are about seven feet deep, and four feet in diameter. They are walled up with brick, and are intended to be coated inside with cement, so as to be water-tight, but in most cases the bricks are laid dry, thus permitting the escape of liquid matter into the surrounding soil. Each well connects directly with the street-sewer by means of a terra-cotta pipe; or, as is more commonly the case, each well is connected with a terra-cotta drain placed under the alley-way between the rears of two rows of houses, which drain has its outlet in the sewer in the street. In other cases the cesspools are used solely for excreta and chamber slops, while the kitchen slops and surface drainage are allowed to flow over the surface of an alley-way in the rear of the house, or between two houses into the street-gutter, to find their way into the nearest street-gulley. Most of the better class of houses have independent sewer connections, by means of iron or terra-cotta pipes, generally the latter, which are constructed above or beneath the cellar floor, and enter the sewer in front of the house, or are laid under the surface of the lot in the rear and connect with the sewer in the back street. Through these channels the entire drainage of the premises, including bath,

surface, and roof water, is conducted directly into the sewer, and the cesspool nuisance is avoided.

The plans mentioned above, serve to illustrate the common faults connected with the private disposal of domestic sewage. In the first place, the storage of excreta and other putrescible matter in close proximity to habitations, is a practice which is repulsive to our senses, and in a high degree detrimental to health, and as such cannot be too severely condemned. Even when water-tight and well-ventilated vaults are used, and their cleansing is periodically attended to, the practice is objectionable, from their liability, even with these precautions, to become nuisances in the course of time.

But this care in construction and management is the rare exception, the rule being to construct these receptacles in such a manner that as much as possible of their contents shall be carried away by percolation into the ground. The result is the pollution of the soil, air, and when wells for the supply of drinking water are in close proximity, the pollution also of this supply. Shallow cesspools connected with the street-sewer by an overflow pipe, into which kitchen wastes and bath-water, as well as excreta, are discharged, produce the same train of evils. It frequently happens that the outlet-pipe becomes obstructed, causing the contents of the pit to overflow and defile the surface of the ground, and even the foundations and cellar of the dwelling. When the drain-pipe has a separate connection with the sewer, the remedy is easily applied; but when it is a part of a system common to a large number of houses, an obstruction in the main drain is not so quickly remedied on account of the difficulty of locating the obstruction, and from want of agreement and united effort on the part of the numerous property owners. The result is the perpetuation of a series of nuisances of the very worst description, until the intervention of the health authorities is invoked in behalf of the preservation of the public health. Nothing short of complete reconstruction of the drainage arrangements, and the separate sewer-connection of each property, avails to abate the evils inseparably connected with this radically defective plan of house-drainage.

There are two or three phases of the evil consequences of the storage of household wastes upon the premises that may be briefly alluded to. The retention of this material in cesspools and its constant agitation at a moderately high temperature, caused by the influx of hot water and other substances favors the decomposition of the organic matter, and the evolution of noxious gases which escape into the surrounding atmosphere. In a thickly populated neighborhood where there are nearly as many depositories of filth as there are habitations, the combined action of these mephitic vapors must have the effect of seriously polluting the air and rendering it offensive, if not unsuitable for sustaining the normal condition of the vital powers of the system. The occupants of such houses are also subjected to dangers arising from polluted soil and contaminated ground-air. Leaking cesspools (and there are few that cannot properly be embraced in this category) have the effect of loading the soil with impurities, and of imparting a deleterious quality to the air circulating through it. The aspiratory power of the warmer air of the house in most months of the year produces a current of vitiated air, from the sublying and surrounding soil, into the basement, whence it ascends throughout the house.

It is a well-known fact that one of the chief causes of the foul condition of the sewers is the discharge into them of decomposing excreta and other organic matter. If house-sewage escaped in a fresh state, and sewers were properly constructed so as to insure the ready and quick removal of this matter before decomposition sets in, the evils most complained of would be averted.

With regard to the plumbing arrangements of houses, there is nothing specially to report which is not common to almost all American cities. The best and the worst and all intermediate grades of work exist, as might be expected when the matter is left entirely in the hands of the owners of property and mechanics. Owners, as a rule, have not the special sanitary knowledge required in designing and supervising the work; and mechanics can hardly be expected to execute the most skilful labor when their financial success depends so largely on the greatest economy in construction. Their lack of knowledge of the correct sanitary principles of house-drainage, is also a very frequent cause of defective work. The remedy is found in the public regulation and supervision of house-drainage. This plan has been applied with great benefit in Providence, R. I., and has also recently been inaugurated in New York City. The regulations adopted by New York Board of Health may be found in full in our issue of November, 1881.

The evils which result from defects in plan and execution of house-drainage, as exemplified by the methods pursued in Philadelphia, are to be remedied: 1st. By prohibitory laws with regard to cesspools and pits of every description. 2d. By compulsory laws on the subject of sewer-connection where sewers exist; and in their absence, by the enforced adoption of the "dry-removal" system. 3d. By the systematic regulation and supervision by the civil authorities of the details of private drainage arrangements, and by periodical inspection by properly qualified public officers.

POLYGONUM HYDROPIPEROIDES (WATER PEPPER, SMARTWEED).

American physicians seem hardly to appreciate the wealth of resources contained in our indigenous materia medica. The *hydropiper* is an illustration. This remedy is not even mentioned in our pharmacopœia. Yet the late Dr. Eberle, in his work on Materia Medica and Therapeutics—in its day a deservedly popular treatise—speaks of it as the most active and certain of the emmenagogues. The late Prof. M. B. Wright, of Cincinnati, held it in equal estimation, and during his long career prescribed it often with remarkable success.

There is a curious history connected with the introduction of this drug into medical practice. Eberle obtained his knowledge of it from a country practitioner, who made it the subject of his thesis as a candidate for the doctorate, at the medical school where Eberle then held the chair of practice. Successful experience with it induced him to give an account of its actions and uses in his therapeutical treatise, but he does not state the source of his information.

The activity of this drug is due probably to the presence of *polygonic acid*, which is contained in its congener, *Polygonum hydropiper*. It has very decided stimulant, even vesicating property, when rubbed into the skin, whence its common name—*smartweed*. As an emmenagogue, it is indicated in states of anæmia, functional torpor of the ovaries and uterus due to systemic depression, and is contra-indicated in the condition of plethora. It should be given for several days before the time for the menstrual molimen to begin. It need hardly be stated that the non-existence of pregnancy should be assured before prescribing this or any other uterine and ovarian stimulant.

Whilst the water pepper is thus indicated in anæmia and functional depression, its power to stimulate the uterine circulation renders it useful in menorrhagia, and in metrorrhagia due to relaxation of the uterine vessels. Sub-involution of the passive kind, with a sluggish circulation, cold hands and feet, and general depression, are also benefited by this remedy.

The form most convenient for the administration of this drug is the fluid extract, given from five to thirty minims, three or four times a day. Its taste is hot, pungent, and somewhat acrid, but when mixed with some glycerine and wine, it can be readily taken.

THE GARFIELD BOARD OF AUDIT.

It is a matter of honor, as well as of custom, that the indebtedness for medical attendance in the last illness should be promptly paid. The amount to which the bills in the case of President Garfield have been "scaled" by the Board of Audit is totally inadequate to the services rendered, and this indisposition on the part of the Government to justly meet them is the foundation of another scandal, of which the people would gladly be spared the disgrace.

When President Garfield was shot, and his life was still hanging by a thread, our horror-stricken nation demanded that he should have the benefit of the united wisdom of the best surgical skill that was attainable. Drs. Agnew and Hamilton were, therefore, summoned to Washington the day after the assassination, and, in conjunction with the surgeons there, gave to the distinguished sufferer their sole care and unremitting attention during those weary days in which the eyes and sympathies of the whole world were centred at his bedside.

When Congress assembled, it properly expressed public sentiment in declaring that the personal expenses of the President, resulting from his assassination, should be assumed by the Government, and it promptly passed an appropriation for the payment of the funeral expenses; which, to the scandal of the nation, included a considerable sum for wine and cigars consumed by the Congressmen who escorted the remains from Washington to their final resting-place. And this Congress—the same which, in the "log-rolling" river and harbor bill, appropriated upwards of $20,000,000 to be expended where it would do most good in promoting the re-election of its members—with considerable display of virtue, assumed that the Government ought not to appropriate so large a sum as $65,000 in payment of the services of the surgeons who were summoned, at the request of Mrs. Garfield and members of the Cabinet, to attend the wounded President. After wrangling over the subject all winter, Congress finally decided to give to a "Board of Audit" $35,000 with which to settle these accounts.

In making an estimate of the value of their professional services, Drs. Agnew and Hamilton explicitly stated that it was calculated at the rate at which they were ordinarily paid by well-to-do-patients for services rendered out of the city and requiring the same amount of time. This was their only criterion, as no similar case has ever happened before, and God forbid that it ever happen again!

The Board of Audit received the bills, and then, in consonance with the expressed feelings of the body that created it, have "scaled" them down to $20,500, and, as if to still further depreciate the services of the surgeons, they have awarded $7000 to Drs. Boynton and Edson, who were employed in the case solely as nurses.

Such is the manner in which it is proposed that the nation shall remunerate the men who, at its demand, and at great personal sacrifice, without stop-

ping to ask who would pay them, or even whether they would be paid at all, dropped their private business and took charge of our wounded President, and at the same time accepted a weighty care, and well-nigh crushing responsibility, greater than which surgeons never before assumed. Under the circumstances they can much better afford to remain unpaid than to accept the paltry sum at which the Board of Audit estimates the value of their services.

A NEW BOGUS DIPLOMA-MILL.

WE had supposed that the bogus diploma institution in America was a thing of the past, but we have lately received a photograph of a diploma issued by the Bellevue Medical College of Massachusetts—an institution incorporated May 25, 1880, in accordance with the "Public Statutes relating to *Manufacturing* and other Corporations organized under General Laws." Consistently with its mode of origin, this mill has commenced to manufacture diplomas in a manner which would have done credit to the hydra-headed establishment of which Philadelphia has been so fortunately rid. The diploma, written in Latin, contains the usual salutation to all who may read, and confers the degree of Doctor of Medicine upon John Burton Thompson, *hominem egregium studiis optimis deditum*—a distinguished man, devoted to the noblest pursuits—and is signed by Rufus King Noyes, M.D., President, and May R. Eastman, Secretary, but without the signatures of any Faculty.

The nefarious practices of this new-fledged diploma-mill have been uncovered by the vigilance of the State Board of Health of Illinois, which, under the direction of its active Secretary, Dr. John H. Rauch, has probably done more to break up the irregular issue of medical dipolmas than any other body. The result was accomplished much as Mr. John Norris, of the Philadelphia *Record*, secured the overthrow of the diploma traffic in this city. A letter was sent, purporting to have been written by one V. B. Kelly, accompanied by an essay on "Vaccination," which, with the letter, was such a marvel of bad spelling that it should have betrayed its real purpose to a man of ordinary mental acumen. Under the plea of poverty, the writer applied for a "diplomy" without being put to the expense of attending lectures, and, after very brief negotiation, one was sent to him by express, C. O. D., for $150.

We have seen it somewhere stated in the daily press that Rufus King Noyes, M.D., disclaimed any knowledge of this practice of the school of which he appears as President; but the methods of advertising pursued on his business card, and a certain local notoriety he has made for himself in Lynn, Mass., as an antivaccinationist, betray his tendencies, if not his real character.

We sincerely hope that the Commonwealth of Massachusetts will act more speedily than did our own State authorities in repealing the charter of this disgraceful *manufacturing* establishment, and deal promptly with the offenders, as they must be, against the law of the State. In the meanwhile we are glad to learn that the government authorities have secured the arrest of Eastman for violating the U. S. postal laws.

WILL THE NEW YORK CODE BE MAINTAINED?

THE medical profession of the country, from Maine to California, have, with absolute unanimity and in terms not to be mistaken, expressed their unqualified disapproval of the New Code adopted at last year's meeting of the New York State Medical Society, and the medical press, with but two exceptions, have correctly represented professional sentiment on the subject. The *Medical Record* and the *New York Medical Journal* alone have championed the New Code, and sought to lead the profession to giving its countenance to charlatanry, but their teachings appear to have in no wise swerved professional morals or influenced professional opinion, not even in their own State. Outside of the City of New York, the New Code seems to be without support, at least if we can judge by the fact that thirty-three of the county societies have formally repudiated it, and but two have accepted it. It is, therefore, no longer a question of doubt that a great majority of the delegates to the State Society are opposed to the New Code, and it only remains to be seen if, at the approaching meeting, the large pledged delegation from New York City can, on a required two-thirds vote, override the will of the rest of the State.

BODY-SNATCHING.

As we go to press we learn that, through the enterprise of one of our city newspapers—*The Press*, a colored man and two wagon-drivers have been arrested for robbing graves in one of our cemeteries. We have only space at this time to express in the strongest terms our condemnation of this crime.

The law of 1867 directs that unclaimed bodies shall be delivered to the medical colleges for dissection in proportion to the number of their students. Why, then, it may be very properly asked, should there exist any cause for body-snatching? The chief reason is, because the Coroner of this city persistently disregards and disobeys this law.

The number of subjects received from the Almshouse is utterly inadequate to meet the needs of the large number of medical students in the city, and the Jefferson Medical College, we have the best authority for stating, has in several years received

less than a dozen subjects from the Coroner, while his own private rooms for anatomical instruction have had an ample supply.

It is only a question of time when the Coroner must be compelled to obey the law of the Commonwealth, of which he is a sworn officer, or better still when he and his office shall be things of the past.

IN commenting on the clinical teaching of obstetrics lately, we took strong ground in favor of it. As a forcible commentary upon this, we quote from a letter just written by a young medical friend—a recent graduate—now studying in Vienna, and we commend it not only to boards of guardians of the poor, but to the philanthropists who have at heart the best good of poor women. The rich can afford to pay for experienced able men, the poor cannot. But let our correspondent tell the result.

"I graduated without ever having examined a pregnant woman or seen a single delivery, and was licensed to go out and get experience at the expense of my earlier patients. But the first two weeks I was here [there are 10,000 births a year] I saw two craniotomies, several forceps cases, and numerous births, and in a month I have learned more of practical obstetrics than in a whole winter of didactic lectures. All that mass of material at the Almshouse is only of benefit to a very few men. That is the system that drives men abroad who wish to have some experience before they practice."

REVIEWS.

ESSENTIALS OF VACCINATION; A COMPILATION OF FACTS RELATING TO VACCINE INOCULATION AND ITS INFLUENCE IN THE PREVENTION OF SMALLPOX. By W. A. Hardaway, M.D., Professor of Diseases of the Skin, in the Post-Graduate Faculty of the Missouri Medical College, etc. Pp. 146. Chicago: 1882.

THIS is a useful and timely work. Dr. Hardaway presents in a small compass the "essentials of vaccination," which must be regarded as a necessary, and as indeed an indispensable, duty, to be undertaken by some one. It is fortunate that the task has been undertaken by some one so well qualified to perform it as is Dr. Hardaway. The advantages of this libellus are obvious. It is small, condensed, and therefore within the reach of any one almost. The knowledge is accurate and well put. Those who read it cannot fail to receive correct notions. The hand-book of Dr. Seaton is an excellent work, but, compared with this, is both voluminous and expensive, and, besides, has for some time been before the profession without revision. Furthermore, Dr. Hardaway's book contains a good deal of matter of American origin. There are chapters on the history of vaccination, on variola in animals, on the nature of vaccinia, on vaccinia in the human subject, on abnormal modifications and complications of vaccina, on revaccination, on the merits of different kinds of vaccine virus, on the methods of obtaining and storing the virus, on the operation of vaccinating, and, finally, an examination of the objections to vaccination. All of these topics are treated with sufficient detail, if somewhat sketchily. On the whole we can recommend the work to our readers as a useful and convenient treatise on this topic.

ATLAS OF GYNECOLOGY AND OBSTETRICS. Edited by DR. E. MARTIN, Prof. of Gynecology at the University of Berlin, and DR. J. P. MAYGRIER. Containing 475 plain and 35 colored Illustrations. THE EXPLANATORY TEXT, TRANSLATED and EDITED, with ADDITIONS, By WM. A. ROTHACKER, M.D., Pathologist to the Cincinnati Hospital, Ohio. Cincinnati: A. E. Wilde & Co.

THIS atlas consists of fifteen parts, each containing four plates and four pages of explanatory text. In all, there are over four hundred illustrations, many of them beautifully colored, and covering completely the subjects of gynecology and obstetrics. Many of these are reproduced from the well-known *Hand Atlas* of Dr. A. Martin, of Berlin; the remainder are lithographic copies of Maygrier's *Nouvelles Demonstration D'Accouchements*. This American edition is translated and edited by Prof. Wm. A. Rothacker, pathologist to the Cincinnati Hospital, the explanatory text of the obstetrical portion being written altogether by Dr. Rothacker. Such drawings are of great value to all students and practitioners of gynecology and obstetrics, and will prove almost indispensable to teachers of these branches of medicine.

SOCIETY PROCEEDINGS.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, November 23, 1882.

THE PRESIDENT, JAMES TYSON, M.D., IN THE CHAIR.

GREAT HYPERTROPHY OF THE HEART DUE TO SEVERE VALVULAR LESIONS.

Presented by DR. M. O'HARA.

J. K., male, æt. 30 years, laborer, contracted syphilis when 18 years of age. Health good until within past three years, when he began to suffer from pain in the left breast, palpitation of the heart, and slight dyspnœa after violent exertion. Gradually becoming worse and unable to work, he was admitted into St. Mary's Hospital in June, 1882. He then complained of great pain over the upper part of the sternum, in the left arm, and shoulder. He lost considerably in weight, his appetite was poor, and albumen was present in small proportion in his urine, although casts were absent. He had marked dyspnœa on admission, which increased rapidly until sleep could only be obtained in the upright position. There was no evidence of pulmonary trouble. With the forearms flexed to a right angle the brachial arteries became prominent at each impulse of the heart; the pulsation of the carotids was wavy and prolonged; the temporals were tortuous and visibly pulsated; no retinal arterial pulsation was seen. Retinal venous pulse was marked, but no visible venous pulsation was detected elsewhere. The left præcordial region was specially prominent. The apex beat was most distinct in the sixth and seventh interspaces on a perpendicular line running midway between the left nipple and anterior border of the left axilla. The heart's impulse was usually forcible and diffused, but at times it became weakened and wavy. In the second left intercostal space a systolic impulse was observed. The pulse rate varied from 80 to 120 per minute, struck the finger with considerable force, but at once lost

most of its volume. All these phenomena were exaggerated by raising the hands above the head. The radial pulses were unequal, but the brachial arteries presented no differences. No hepatic pulsation was felt. The cardiac area of complete dulness was nearly twice its normal size, the increase being downward and to the left. Over the second right costo-sternal articulation, the closure of the aortic valves was distinctly heard, and with this a slight diastolic murmur. A systolic murmur was also heard over the same spot. The systolic murmur was nearly lost in the carotid and subclavian arteries, but the diastolic one remained distinct. On a line with the second costal cartilage, over the sternum and to the left of this bone, the diastolic and systolic basic murmurs were most intense. Over the cartilage of the left fourth rib, the murmurs heard at the base of the heart were less distinct or were obscured by the development of other murmurs. In this situation a short, sharp, presystolic murmur, apparently prolonged into a systolic one, was detected. At the apex and just above it, the systolic murmur became intensified, its blowing character aiding in differentiating it from the short, harsh murmur which immediately preceded it. From the fourth to the seventh rib, and from the sternum to a point about five or six inches to the left, a diastolic murmur of considerable intensity was heard. The character of the diastolic murmur over this area was different from that presented by the second sound murmur at the base of the heart, and its intensity was much greater. Posteriorly, at the lower angle of the left scapula a blowing systolic murmur, entirely deprived of its harsh presystolic complication, was heard. Dr. Eskridge thought the physical signs justified him in venturing the diagnosis of constriction and regurgitation at the ventral orifice; a rare form of aortic regurgitation produced by the inability of one of the aortic semilunar valves to close while the others acted properly; great hypertrophic dilatation of the left ventricle, and to a less extent of the left auricle; and aneurismal dilatation of one of the great vessels, probably of the pulmonary artery near its origin from the heart. The patient rapidly sank, œdema of the lower portion of the trunk and lower extremities, with hydrops pericardii, of the pleura, and of the peritoneum, developed. He died exhausted in August, nearly two months after admission to the hospital.

Sectio-cadaveris.—Brain: Some venous congestion of the pia-mater. The brain substance and the ganglia nearly normal in appearance. Thorax: The pericardium was nearly filled with serum. The only evidences of inflammation were a few patches of recent lymph at the left anterior upper portion of the sac. The heart weighed eighteen ounces, the increased weight being chiefly due to eccentric hypertrophy of the left auricle and ventricle. The right ventricle was dilated, with slightly thickened walls. The aortic valves were insufficient and thickened. The posterior leaflet was normal in shape, but the others curled upon themselves on the aortic side of the orifice. The stenosis was slight. The mitral orifice was button-hole shaped, and the valves failed to close on account of calcareous deposits in their tissues, this degeneration also involving the inner surface of the left side of the auricle contiguous to the valves. The auricular surface of the valves was fairly smooth, but in the ventricle just beyond the valves, and attached to them, hung a bony substance about one-eighth of an inch in diameter. The left auricular appendix was much hypertrophied. The valves at tricuspid and pulmonary orifices were normal. The pulmonary artery was considerably dilated. The pleural cavities contained several ounces of serum. There were old adhesions at the apex of the right lung posteriorly, and at the same part of the left lung anteriorly. Several patches of recent lymph were also found at the lower part of the left pleural cavity. Abdomen: The peritoneal cavity contained considerable serum, and its veins were engorged. The liver was enlarged, with distended veins. The kidneys were highly congested. The spleen was double its normal size and softened.

ABSCESS OF THE LIVER FOLLOWING ARRESTED MENSTRUAL DISCHARGE FROM EXPOSURE TO COLD; PYÆMIC ABSCESSES OF THE LUNGS AND SPLEEN; PERFORATION OF THE BOWEL; SEVERE HEART COMPLICATIONS; DEATH DURING THE SEVENTH WEEK.

Presented by DR. J. T. ESKRIDGE.

M. D., æt. 28 years, was a factory girl, whose father and two sisters had died of heart disease. She had had two attacks of inflammatory rheumatism, but had never complained of heart trouble. Her fatal illness began at night, by arrested menstrual flow, and severe cramping abdominal pains, coming on after exposure to cold during the previous afternoon. Fever and pain in the right lower side of the abdomen continued for three days, when she was able to work again for about a week. Jaundice began early, was well marked during the first three weeks, was slight afterwards, but lasted until her death. Her symptoms three weeks after the beginning of the attack, when admitted into St. Mary's Hospital in Dr. Hickman's ward, were: great prostration, emaciation, loss of appetite, pain in the right inguinal and lumbar regions, and irregularly recurring chilly sensations. Two weeks later, when first seen by Dr. Eskridge, the liver dulness extended nearly to the anterior superior process of the ilium, and the normal tympanitic note of the right inguinal region of the abdomen was replaced by one bordering on dulness. The tenderness was so great that neither fluctuation nor a tremor could be detected, if such existed. Great tympany soon developed and obscured the physical signs. A pyæmic condition, from which the patient perished in about two weeks, set in, attended by chills, fever, sweating, low temperature, and diarrhœa. A few days before death she passed considerable pus by the bowels. The surface temperature, taken over the chest and abdomen, showed the latter to be about two degrees warmer than the former, but all parts of the abdomen were of nearly the same temperature. Stenosis of the aortic and mitral orifices, with insufficiency of the valves of the latter, and a dilated hypertrophy of the left auricle and ventricle, were recognized during life. The post-mortem examination revealed the diagnosed lesions of the heart, and demonstrated the possibility of visible left auricular pulsation. The liver weighed eighty ounces (the right lobe being alone enlarged), and contained a large abscess surrounded by several smaller ones with which it was connected. The cæcum and its appendix were surrounded by about six ounces of pus, the latter being circumscribed by adhesions. Two openings were found in the black and gangrenous cæcum, one where its appendix had sloughed off, the other due to perforation of the bowel by the pus. The portion of the liver external to the hepatic abscess was firmly adherent to the abdominal wall, and from this point (about two inches above the crest of the ilium) the pus had burrowed its way and formed a sinus leading to the right inguinal region under Poupart's ligament. A direct communication between the liver abscess and the accumulation of pus surrounding the cæcum was seen.

DR. ESKRIDGE thought that the demonstration of the possibility of visible left auricular pulsation in the second left intercostal space, and of the occurrence of a functional murmur in the pulmonary artery without dilation of that vessel, was worthy of notice at present, as Dr. Broadbent had so recently advocated views almost diametrically opposite. Dr. Eskridge considered

mitral stenosis of not infrequent occurrence, and said, with care, the mitral presystolic murmur was not usually difficult to detect. The four physicians, including himself, present at the autopsy, then thought that the hepatic abscess was secondary to the inflammation and suppuration around the appendix and cæcum, but he, after carefully analyzing the clinical evidence and pathological lesions in favor of each condition, was satisfied that the case began as one of primary abscess of the liver following exposure to cold while the patient was menstruating.

The discussions on both these preceding specimens, which presented somewhat similar heart lesions, was now opened by DR. J. C. WILSON, who said that there was one point of special clinical interest in Dr. Eskridge's case, viz., the chronology of the lesions. He thought that the extensive multiple abscesses of the liver and lungs were secondary to the abscess around the caput coli. In some cases the determination of the primary source of the emboli was difficult, but in this case it was perfectly clear.

DR. BRUEN said that he would like to go on record among those who had observed auricular pulsation in cases of mitral obstruction, in which the stenosis was extreme.

DR. NANCREDE remarked that in his experience flexion of the thigh on the abdomen was an almost invariable early symptom in cases of perityphlitis, from which he would infer, that as this thigh flexion did not occur in Dr. Eskridge's case until within ten days of the fatal termination of the case, that the peri-cæcal abscess was secondary to that in the liver.

THE PRESIDENT said that he had been much impressed with the marked increase of the surface temperature in the neighborhood of the abdominal abscesses as compared with the general body temperature. As to the chronology of the various affections, he was inclined to believe that Dr. Wilson was correct.

DR. ESKRIDGE said, in reply to Dr. Wilson, that he could appreciate how the perityphlitis might be mistaken for the primary trouble, and the hepatic suppuration for the secondary; such a mistake (for he felt certain that the abscess of the liver was the primary affection) was made by all, including himself, who were present at the post-mortem examination. The pathological and clinical facts in favor of primary hepatic abscess were given at some length in his remarks in connection with the presentation of the specimens. In brief, the clinical features were as follows: Deep and early jaundice following exposure to cold, pain in the right side of the abdomen attended by fever and gastric irritability of a few days' duration; an intermission of a week, during which she was able to work, followed, after which gradually increasing weakness with dull, abdominal pain, attended by loss of flesh and appetite confined her to bed; ten days before death the development of intense tympany associated with flexion of the right thigh upon the abdomen. The hepatic suppuration was confined to the right side of the right lobe, all the smaller abscesses directly communicating with the large one, and the left lobe of the liver being apparently healthy.

TONGUE AND LARYNX FROM A CASE OF ELEPHANTIASIS GRÆCORUM.

Presented by DR. A. C. W. BEECHER.

The case from which these specimens were removed was reported in the *Photographic Review of Medicine and Surgery*, No. 6, vol. i., August 1871. Mr.——, æt. 26 years, born in Cuba, of Spanish parents, married. His father was living when the patient died in 1872; the mother died when he was an infant. He was wet-nursed by a colored house-servant, who was unmarried, but had had several children by different individuals. She was healthy as far as known, with the exception of sores upon her feet. He had none of the diseases of early life except measles and mumps. His health was good up to 15 years of age, when superficial yellowish-pink spots appeared upon his body, accompanied by neither pain nor itching. They remained about one year, and disappeared during a voyage to Spain. While there he was attacked with neuralgia of the little fingers, extending along the course of the ulnar nerve to the elbow, which was relieved, and he returned to the West Indies. Six months after his return he experienced a second attack, which lasted for one month. In 1862 he came to this country to study, and after one year became the subject of repeated catarrhs, chiefly affecting the throat. Itching of both forearms and legs soon after developed. In 1866, œdema of the hands and feet, which did not extend beyond the wrist or ankle, set in, producing a sensation of stiffness of the fingers and toes. Blebs then suddenly appeared in varying size upon the dorsum of the hands and fingers, extending over the whole length of the latter. At times a sharp pain in the hands and fingers, arousing him from sleep, would herald one of these bullous attacks. The bullæ contained a whitish opaque fluid, and when burst were succeeded by dark-brown scabs, transversely cracked and fissured over the finger joints. Under these crusts were excavated ulcers. The finger-tips and the ends of the toes presented similar ulcers, over which the nails grew, and these latter being brittle broke off when long. Next frequent hemorrhages from the nose, coming on while laughing, or in mental or physical excitement, were noted. The nose became tender, was much swollen, and discharged moderately offensive pus, and the bridge of the nose began to sink, gradually assuming its present appearance (a photograph was here shown). A year after the hands were attacked the face became similarly affected, the ulcers on healing leaving distinct cicatrices. The eruption never entirely ceased, new bullæ and ulcers forming while others healed. There was marked emaciation. The hair, which was everywhere scanty, was absent in many spots on the body, and the skin was of a dusky hue. The muscles of the arms were much wasted, and the skin presented small white cicatrices. Over both patellæ and olecranon processes, large, hard, firm, reddish nodules were seen. The hands were much deformed, with wasted, contracted fingers, having numerous small hard tubercles scattered beneath the skin of the dorsa of the hands. Numerous ulcers, mostly covered with irregular black scabs, covered the back of the fingers. A markedly varicose condition of the veins near the wrist was observed. The hair of the head was normal in quantity, but was hard and harsh, while there was total loss of eyelashes and eyebrows, and the beard was scanty. There was a large hard tubercle over one frontal boss, near which was an old ulcer. The nose was much sunken, there was an ulcer over the right zygoma covered by a black rupia-like scab; the face was marked with scars, and the ears were likewise deformed with traces of numerous cicatrices. Many of the teeth were decayed and broken off close to the gums. The tongue was much thickened with greatly enlarged papillæ. The velum palati was almost gone from ulceration, and yellowish-white tubercles existed in the pillars of the fauces. The larynx was much contracted by thickening of its mucous membrane. The epiglottis was about twice its normal thickness and had several well-marked tubercles upon it. The voice was much impaired, weak, and had a peculiar husky sound. There were deep sloughing ulcers over each tendo Achillis. Tactile sense was very much impaired, as in the dorsum of the hands, where the sense of touch was almost absent, and what was recognized was referred to some point in the neigh-

borhood of the point of contact. The sense of pain was almost entirely absent in the hands and forearms, becoming more marked as the body is approached; a pin passed through the pulp of the middle finger gave absolutely no pain. The difference between very hot water and that of an ordinary temperature was readily perceived; moreover, there was general increased cutaneous sensibility to temperature changes. Taste and smell were somewhat impaired. Very slight anæsthesia of the trunk exists. Sight was good, although prolonged use of the eyes was painful. The general health of the patient was fair. There seemed to be no trace of venereal disease. Sexual power was absent. Frequent neuralgic pains of the legs and arms were complained of. The atrophy of the hands, feet, fingers, and toes was appreciable from month to month. The cornea next became ulcerated, the conjunctival surfaces became adherent, and almost total blindness ensued. Swallowing was almost impossible towards the last, owing to the pain produced by the thoat ulcers and because from imperfect closure of the rima glottidis fragments of food lodged in the larynx, producing violent and exhaustive coughing. Respiration was also so much impeded that he died October 29, 1872, partly from dyspnœa, partly from starvation. Up to death he suffered intensely.

Autopsy.—Rigor mortis well marked; great emaciation of the entire body noted. The surface of the tongue was fissured, the papillæ enlarged, with the remains of tubercles well marked toward its base. The epiglottis was curved on its long diameter, thickened, and stiff, with its upper margin eroded by a large ulcer. A deep ulcer was situated in the mucous membrane near the apex of the left greater cornu of the hyoid bone. Narrowing, from thickening of tissues, involved the trachea at its upper part, and produced such a stenosis of the chink of the glottis that an ordinary quill could not be passed between the vocal chords. Upon section of both ulnar nerves near the elbow, extensive degeneration was detected. This case was examined both by Dr. Duhring and Dr. R. Bartholow—the latter making a laryngoscopic examination—who both considered it to be of the mixed variety, viz., tubercular and anæsthetic leprosy. The case is interesting both from its rarity and the possibility of other cases being brought here from California and New Brunswick, in both of which places it is not uncommon. Again, its resemblance to syphilis at first led him into error, although Dr. Beecher said that he had recognized something strange about the disease. The late Dr. Maury saw the case with me, and had no doubt of its syphilitic nature until Dr. Duhring's examination of the case convinced him that it was really leprous. Erasmus Wilson says: The resemblance to secondary syphilis is so striking that an error is certain, excepting on the part of those who have had an opportunity of seeing and observing leprosy.

DR. WILSON asked whether the family history had been investigated.

DR. BEECHER replied that he had carefully questioned all concerned, but had ascertained nothing special, except that when such cases occurred in wealthy families the fact was always hushed-up.

DR. WILSON said that in this connection he would call the attention of members to a very able article in the last issue of *The American Journal of the Medical Sciences*, where the writer took the view that leprosy was contagious, maintaining that it should be investigated where it was of rare and recent occurrence. Dr. Wilson also referred to its occurrence among recent immigrants in certain of our northwestern States.

DR. CARL SEILER said that Dr. Beecher had asked him to examine the specimen of the larynx and tongue of the case of elephantiasis. The dorsum of the tongue was deeply furred and the papillæ appeared enlarged. The epiglottis was thickened, very stiff, and rolled on its long axis like a leaf. On its upper free margin was a crescentic ulcer with raised edges, and numerous small roundish ulcers were scattered over the laryngeal surface of the epiglottis. Extensive ulceration of both ventricular bands and vocal cords existed, so that the opening of the ventricles was almost entirely occluded. The ulcers were symmetrical and most marked towards the anterior insertion of the vocal cords. About a quarter of an inch below the cords was a cicatricial band projecting from the sides of the subglottic cavity, and leaving an elliptical opening through which a crow-quill could hardly be passed. Below this obstruction the mucous membrane of the subglottic cavity was studded with small round ulcers, while the trachea seemed healthy. No further lesions could be detected by the naked eye, although, doubtless, such had existed, but had been obscured owing to long preservation in alcohol. Dr. Seiler regretted the absence of the records of the laryngoscopic examinations made before the patient's death; still the lesions seen in the specimen would explain the symptoms of dyspnœa, aphonia, and dysphagia, and it was astonishing how the patient could have respired at all through the narrow opening left by the cicatricial tissue below the glottis. The chief interest, however, centred in the great similarity of the lesions in this unique case with those found in syphilis and lupus of the larynx. He had seen ulcerations in syphilitic laryngitis almost identical in shape and location with those seen in the specimen, and he remembered having seen two or three specimens of lupus of the larynx, when in Vienna, which bore a strong resemblance to syphilis. Lupus and leprosy of the larynx could not be diagnosed from one another by laryngoscopic examination, but other signs and symptoms outside of the larynx had to aid in the diagnosis. Thus in a syphilitic laryngitis there were always sharply defined bands of a deep red color on the free margin of the velum palati. In lupus, affections of the skin of some part of the body always preceeded, co-existed with, or shortly followed the manifestations of the disease in the larynx, while in leprosy the larynx was usually attacked later in the disease when other portions of the body clearly showed marks of the pest.

DR. LITTLE remarked that, having conversed with Dr. F. H. Enders, who had seen a great many cases of leprosy in the Sandwich Islands, he had been interested to note that the eyelids were affected in the early stages, ectropion resulting, and the conjunctiva and cornea, or even the whole eyeball, becoming involved. The affection of the eyelids is sometimes the first symptom, or occurs during the first or second year of the disease. The lids were involved in the case described, and the eyeballs subsequently.

NEWS ITEMS.

CINCINNATI.

(*From our Special Correspondent.*)

SMALLPOX IN CINCINNATI.—A recent issue of an Eastern daily paper contains a statement that "the ravages of smallpox in Cincinnati have been withheld from the public," and that "since August 24 there have been four thousand cases, of which fifteen hundred were fatal." The law requiring the registration of infectious diseases is strictly enforced in this city, so that your correspondent experienced no difficulty in obtaining the correct figures, which completely refute the above statement. The records of our Health Office show that since the first appearance of the disease, in January, 1881, a period of twenty-two months, only

4,000 cases have occurred, and of these, 1248 proved fatal. In the month of August, this year, there were 90 deaths from smallpox; in September 70, and in October 36. The disease has rapidly decreased, until, at the present date, there are only 20 cases in this city of 300,000 inhabitants, and these are confined to the German districts, where the greatest difficulty is encountered by the authorities in their efforts to secure general vaccination. In these portions of the city there will, of course, be more or less smallpox during the coming winter, but all attempts to magnify this small number into a general epidemic are unjust to the city, the general health of which is quite good. Your readers should not be misled by the frequent reference in the daily and medical press of this city to the bad character of our Board of Health. It is at present an unusually incompetent collection of ward politicians, and deserves to be abolished; but its members have interested themselves chiefly in the management of the funds of the board, and the distribution of minor offices, fortunately leaving the control of smallpox affairs in the hands of the Health Officer, who has done all that could be reasonably expected of him.

CHICAGO.

(*From our Special Correspondent.*)

THE MEDICAL SCHOOLS.—The reputation of our city as a medical centre of instruction is fully maintained this year by the number of students, which is between 800 and 900, distributed amongst the four regular medical schools. The Woman's Medical College, as far as we know, the largest in the West, has the respectable number of 75 matriculants. Rush College, the oldest, claims the lion's share, with nearly 500 students, while the Chicago Medical College and the College of Physicians and Surgeons each have about 140.

The College of Physicians and Surgeons, though only opened this autumn, owes its fair start in numbers in no slight extent to the reduced fees, which are but half of those of the other institutions. But it has to contend with unfavorable auspices from the onset. Built near the County Hospital in the hope of using it for clinical purposes, the prospect has been somewhat marred by the action of the County Commissioners, who have control of the Medical Staff of the County Hospital. After long efforts the new school succeeded in being represented on the staff by one member of its faculty. However, other restrictions on the part of the County Board have rather diminished the availibility of that hospital for clinical demonstration.

BOGUS DIPLOMAS.—A new medical hatching machine has been discovered by the State Board of Health, who refused to admit to practice a certain Dr. Thompson, whose diploma was signed by the President of the "Bellevue Medical College of the State of Massachusetts," of Boston. Bogus letters were sent to the alleged Dean, Dr. Rufus Noyes King, in which the correspondent, with a strenuous attempt at illiteracy and knavery, asked for information as regards the terms of graduation in that school. The *bona fide* answer is fully up to the questioner's epistle, in both the above-mentioned qualities, and revealed a diploma factory in the Buchanan style, in which instruction is given (if desired?) with special reference to diagnosis, treatment, and doctoral conduct. To satisfy all possible demands, the corps of instructors is said to consist of representatives of the two medical schools. Dr. Thompson is as yet without license.

THE HEALTH OF THE CITY was seriously threatened by a fresh outbreak of smallpox in October, traceable to a few concealed cases. By strict vigilance, however, the Board of Health has become master of the situation, and very few cases of the disease have made their appearance since. Scarlet fever was also alarmingly prevalent, though of a mild type. This likewise has diminished, and the mortality reports now show a better sanitary condition of the city than has existed for several years.

ANN ARBOR, MICH.

(*From our Special Correspondent.*)

THE CHARGES AGAINST PROF. FROTHINGHAM.—A matter of more than usual interest has attracted the attention of the medical profession and the laity of Michigan. Briefly it became public through a written complaint made to the President of Michigan University, at Ann Arbor, by a student of the medical department, against Dr. G. E. Frothingham, Professor of Materia Medica, Therapeutics, and Ophthalmology and Otology. The complaint against the Professor was that he took the time of the students in denouncing religion, churches, and ministers. The student who made it has for years been a missionary on the Pacific coast, and is about forty-five years old. For a year and a half he has been at the medical department of the University. Prof. Frothingham denied the charge, and in turn arraigned Mr. Morgan, the complaining student, before the Medical Faculty as having in his complaining letter to the President been false in both spirit and letter. The Faculty met, heard both the accuser and accused, and witnesses on both sides, and decided that the charges of Prof. Frothingham against Mr. Morgan were not sustained. Five of the Faculty were present at the meeting which rendered this decision. The names of the majority are understood to be Professors Dunster, Langley, and Herdman; the names of the minority are Profs. Palmer and Sewall. Profs. Ford, Maclean, and Prescott were not present.

Prof. Frothingham now announced that if the matter was to be left in this way he would resign. Prof. Maclean said that he would do likewise. The Medical Faculty then held another meeting in which they passed resolutions to the effect that 1. Mr. Morgan in entering a complaint against Prof. Frothingham violated one of the University laws and stepped beyond his privileges; 2. Mr. Morgan, in his letter to President Angell exaggerated and misrepresented many important points in his charge against Prof. Frothingham; 3. The Faculty in voting upon these resolutions does not wish to impeach the veracity of any student or witness concerned.

In view of this action of the Faculty Prof. Frothingham has concluded not to hand in his resignation at present, and of course Prof. Maclean will do likewise.

Such in brief is an outline of this quite remarkable transaction. It is possible that we have not yet heard the end of it.

VIENNA.

(*From our Special Correspondent.*)

SYNTHESIS OF URIC ACID.—An important discovery in physiological chemistry has recently been made in the chemical laboratory of Prof. E. Ludwig, by Dr. Horbaczeoski.

Prof. E. Ludwig announced the discovery for the first time in the Society of Physicians, upon the evening of November 3d. Dr. Horbaczeoski heated urea and glycocol very quickly up to 230° C., and then allowed the two substances to fuse until evolution of gas ceased. A brown mass resulted, from which uric acid was separated by a very complicated process.

Uric acid, as thus obtained, presents under the microscope the characteristic whet-stone shaped crystals, and when tested chemically reacts in a perfectly satisfactory manner.

This discovery of Dr. Horbaczeoski is the first synthesis in physiological chemistry that has ever been

made. It will be remembered that in 1828 Wöhler succeeded in the formation of uric acid from ammonium cyanate. This discovery was not a synthesis, in the true meaning of the word, inasmuch as a more complex combination of elements was not built up from simpler combinations. Then, again, Dr. Horbaczeoski formed uric acid out of urea and glycocol, two substances found normally in the living human body.

Since the evolution of the formula for uric acid, $C_5H_4N_4O_3$, by Wöhler and Liebig, in 1828, the problem which the young investigator in Vienna has solved has been the occasion of infinite toil in all chemical laboratories. Mulder, Bayer, and Stretchen have worked in vain upon the subject. Bayer's pseudo-uric acid, produced by the reaction of cyanamide upon alloxantin, reacts under the murexide test, but fails in other characteristics. Strechen's experiments with glycocol certainly pointed the way to the discovery.

Prof. Bayer has telegraphed his congratulations from Munich. While the significance of this discovery is great as an absolute fact in physiological chemistry and biology, it will probably lead to important results in clinical medicine and therapeutics.

Prof. Carl Braun Challenged by an American Physician to Fight a Duel!—A popular medical journal appeared upon last Tuesday with a very sensational account of a quarrel between Prof. Braun and an American physician, who has been engaged, for some time, in the special study of obstetrics.

According to the story, the American, after breaking the arm of a child, with dorsal displacement of the right arm, in a footling presentation, absented himself from the clinic, fearing to encounter the irate Professor's very excellent German or equally vile English. Prof. Braun's remarks were reported by a colleague, who did not understand German, to the operator. Prof. Braun applied the term "feigheit" (*i. e.*, cowardice) to the young man's conduct in a perfectly playful manner, and only desired to impress upon the young man's mind that he had not necessarily been guilty of an awkard operation.

The American thoroughbred ("Amerikaner vollblut") became highly incensed, and in company with a comrade repaired to Prof. Braun's residence, in London Gasse, charged him with the insult, demanded an apology before the college or a duel with pistols at ten paces at Schön-Brun.

Professor Braun endeavored to calm the hot-headed youth, refused to make a public apology, and stated that, whatever American social laws might be, it was not a custom in Austria for a professor to fight with his students. Not at all satisfied with the result of this interview, the American betook himself to Judge Taft, the American Minister, and unburdened his tale of woe. After mature reflection, Judge Taft concluded that the Professor was not altogether in the wrong, thought the occurrence was not a sufficient *casus belli* between America and Austria, and begged the American to let the matter drop.

All the Vienna daily papers caught up the item at once, and the affair has been town-talk for a week. The North German papers have heard of the matter, also, and our American friend has achieved, within a very short time, a great notoriety.

Your correspondent knows the American physician and Professor Braun, and from the lips of both, is able to assert that the whole story is a fabrication, a typical example of Teutonic wit.

Farewell Lecture of Dr. O. W. Holmes.—Dr. Holmes delivered his farewell lecture before the medical class at Harvard, on Tuesday, November 28th. One o'clock, the hour for the anatomical lecture, found the amphitheatre packed with students of all classes. Among them many gray-haired practitioners were assembled to hear their old teacher give his last lecture. The Medical Faculty occupied seats within the rail. In front of the desk was a large plaque of flowers about three feet in diameter. The entrance of the doctor was marked by the rising of the students, and as their applause ceased, Mr. Washburne, on behalf of the class, presented him in behalf of his last class with a beautiful loving-cup, inscribed with a quotation from one of his own poems. Mr. Washburne said: Dr. Holmes, it is with deep regret that we come to this farewell. We had hoped, when we entered upon our course to be permitted to listen to your lectures through the year. But we are thankful that we have enjoyed this privilege at all. Desiring to express our regard in some form more tangible than mere words, we beg you to accept this gift. As you may look at it, we hope you will sometimes remember us as we shall always remember you. In the language of the inscription, "Love bless thee, Joy crown thee, God speed thy career." A photographer was present, and while he was taking the scene the doctor had time to overcome his emotion.

There was three times in a man's life, he said, when he might properly consider himself the centre of attraction—at his christening, at his marriage, at his own funeral. This, the beginning of his thirty-sixth course of lectures on anatomy, was the end of his connection with the school. For about half of this time he had also taught physiology, but with the growth of the science he had gladly given it over to form a new department. It was a good thing for a college to get rid of her old men. Their ideas were antiquated and the college had better let them go. He had held his office so long because he taught a subject which could never become antiquated. In his lifetime it had received very few important additions. He had begun the study of law in his youth as an experiment, but for various reasons had turned his attention to medicine. While in the law school he had engaged with some friends in publishing a paper and for the first time saw himself in print. From the printer's type he had contracted the disease of authors, head-poisoning, which he had never quite got rid of. The doctor finished with some practical remarks on the way in which the science was tending.

Annual Report of the National Board of Health.—The fourth annual report of the National Board of Health was transmitted to the Secretary of the Treasury on the 29th ult. Among the papers promised, as appendices to the report, are the details of Prof. Mallet's work on "Water Analysis," an abstract of which has already appeared as a supplement to the now suspended *Bulletin;* Philbrick and Bowditch on the "Siphonage of Traps," Bowditch's "Survey of Summer Resorts," Wood and Formad "On the Relations of Diphtheria to other Septic Diseases;" a second paper by Profs. Rumpelly and Smyth on "The Filtering Capacity of Soils," and the report of a Committee on the Registration of Vital Statistics, are also appended, and will be looked for by those interested in sanitary matters with considerable interest. In the last-mentioned paper the position is taken that there need be no difficulty in procuring in this country as complete a registration as is obtained in any other, and the suggestion is made that the State registering officers furnish the data to the general government, which, on its part, should agree to pay part of the expense of collecting them. The Board approves of this suggestion of the Committee, and recommends a special appropriation by Congress for this purpose.

The relations of the National Board of Health to maritime quarantine are clearly explained.

The law of June 2, 1879, usually referred to as the *quarantine law*, imposes certain duties on the Board in connection with quarantine, but conveys no quarantine powers. These powers are vested in the State and municipal authorities, and the duty of the Board is to aid these authorities in the execution of their rules and regulations for the prevention of the introduction of contagious diseases. Hence, the establishment of the Shir sland, Sapelo Sound, and Elizabeth River Stations as aids to the local authorities on the Gulf and Atlantic coasts. That a station of similar character is required near Galveston, Texas, seems manifest from the events of the past summer, but no recommendation is made to this effect, probably because this has already been done in previous reports. In referring to the history of a steamer which entered San Francisco harbor with smallpox among her Chinese passengers, the report remarks: "This particular case has reference only to smallpox, but when the devastation effected by cholera in Japan since April last, is considered in connection with the intercourse between Yokohama and San Francisco, and the railroad facilities between the latter port and the whole of the United States, the subject assumes a larger proportion, and in the event of inability in the part of State or municipal authorities to establish a local quarantine, a recommendation by this Board for the establishment of a refuge station on the Pacific coast seems called for by the general interests of the country."

The report urges that bills of health should be required of all vessels coming to the United States. This would have the beneficial effect of causing special attention to be paid to the condition of vessels at their ports of departure, in order that clean bills of health might be obtained by them, and would thus by so much lessen the number of vessels to be treated in the refuge stations and the local quarantine, and the chances of the importation of exotic contagious diseases. As the law stands, at present, a penalty is imposed upon vessels which enter upon our ports without bills of health, but this law cannot be enforced, as in the first place it throws upon this government the burden of proving the port of departure an infected one, and in the second, the law contains a proviso requiring its official promulgation in the ports of departure, and this official promulgation was not permitted by the Cuban authorities.

The inter-State inspection service on the Mississippi River is reported as having worked well during the past as during previous summers, in giving security to the people of the valley above New Orleans against the propagation of yellow fever from unsuspected or unreported cases in that city. Travel and traffic by river and railroad continued unchecked under the condition imposed by the States of the valley to wit: the certificate of a National Health Board inspector, that the vessel or train was free from the infection of yellow fever or from any reasonable suspicion of such infection.

The immigrant inspections which were instituted in June last, appear to come under the headings of both *maritime* and *inter-State quarantine*, for they involve inspections at the ports of entry, such as New York, Philadelphia, Baltimore, and Port Huron, as well as later inspections at certain large distributing railroad centres, such as Chicago, St. Louis, etc. These interior inspecting stations are needful, because the disease, smallpox, against the importation of which the inspections were instituted, has a period of latency which permits an immigrant who has been exposed at an European port before sailing to pass the quarantine inspector at the port of entry, and proceed undetected on his westward journey. The inspectors do not simply look out for smallpox cases, and isolate, disinfect, and vaccinate in the event of their detection, but they examine all immigrants as to their protection by vaccination or previous attack, and if this is found to be unsatisfactory, protection is afforded by a fresh operation. The steamship managers and surgeons have coöperated with this service by having their immigrants inspected and vaccinated during the ocean passage. Boston has established inspections in accord with the work of the general service, but the Board has not been required to pay for them.

The suspension of the *Bulletin* is regretted, and its restoration recommended.

A few words only are given to the epidemics at Pensacola and Brownsville. It is noted in connection with the latter, and the attention of Congress is invited to the fact "testified to by those who are cognizant of the epidemiology of yellow fever in that section, that while an inspector of this Board was on duty at the mouth of the Rio Grande, the fever was excluded, although the conditions predisposing to invasion were as imminent during that period as they were at the time when the disease effected its entrance."

The report then defends the Board against the charges which have been made, that it has exceeded its authority. It shows that all the work which has been done comes directly under the provisions of the Acts of March 3 and June 2, 1879. It closes with an itemized, tabular statement of the expenditures since the organization of the Board, which shows that the charge of extravagance is equally unfounded. No part of the contingent fund of $100,000 has ever been used by the Board. The first use of that fund was made by Surgeon-General Hamilton, at Brownsville.

The estimates for the continuance of the work of the Board, amount to $150,000. A contingent fund of $100,000, to be used in case of an epidemic, is also recommended.

DIPHTHERIA IN PHILADELPHIA.—The latest information with regard to the prevalence of diphtheria in Philadelphia shows that this disease is on the increase, and more generally distributed throughout the city. The decrease in the deaths noticed in our last issue was only an apparent abatement of the epidemic.

The number of deaths reported for the week ending December 2d was 42, an increase of 13 over the number for the preceding week, and 3 more than the greatest number recorded in any previous week during the year.

Deaths are reported in 20 out of a total of 31 wards. In the 23d Ward, or Frankford, with a population of 26,522, there were 7 deaths, against 4 in the preceding week. In this outlying district the disease has been most persistent from the start, and there appears to be no indication of its abatement. Quite a number of cases have occurred among the employés of the United States Arsenal, requiring the most rigorous measures to prevent its spread. The 24th Ward, also a semi-rural district, and widely separated from Frankford, also shows a marked increase in the number of cases and deaths. There was 5 deaths reported, against one in the preceding week.

The health officer reports 165 new cases for the week ending December 5th. These are unequally distributed among all the wards, with the exception of the 14th, which reports no cases during the week. This shows a very general prevalence of the disease, though, as might be expected, in some wards it has gained a much stronger foothold than in others. There are 21 new cases reported in the 24th Ward; 15 in the 29th; 12 in the 31st; 11 in the 20th; and 9 each in the 1st, 12th, 19th, 23d, and 28th Wards.

The total number of deaths for the year to Decem-

ber 3d, is 801. Of this number, 174 occurred in the first quarter; 163 in the second; 215 in the third; and 249 in the first nine weeks of the fourth quarter. The indications are that the last quarter of this year will show a far greater mortality from this cause than has ever occurred in the same period of time.

THE COMPENSATION OF PRESIDENT GARFIELD'S SURGEONS.—The claims allowed by the Garfield Board of Audit have just been made public. The physicians get $27,500. Of this amount Dr. D. W. Bliss gets $6,500; Dr. D. Hayes Agnew, $5,000; Dr. Frank H. Hamilton, $5,000; Dr. Robert Reyburn, $4,000; Dr. Silas H. Boynton, $4,000, and Dr. Susan A. Edson. $3,000. The amount awarded for services and supplies was $5,929.93. The items range from $13 for express hire to $1,500 for the Central Railroad of New Jersey. Under head of extra services by government employés the items range from $15 to $200, with a total of $5,440. The grand total is $38,869.93. The total appropriation to pay claims against the Garfield estate was $57,500, of which amount $35,500 was specially appropriated for physicians and medical attendance. It will be seen that the allowances for the physicians and medical attendance are $8,000 less than the amount appropriated, and that the allowances for outside claims are about $11,000 less than the amount available, making a total balance of nearly $19,000 out of the entire appropriation of $57,500.

A FOREIGN HONOR TO DR. PARVIN.—The Edinburgh Obstetrical Society has elected DR. THEOPHILUS PARVIN an honorary member.

LIGATURE OF THE EXTERNAL ILIAC ARTERY FOR FEMORAL ANEURISM IN A CHILD.—The English journals announce the occurrence, at the East London Hospital for Children, of a case of femoral aneurism in a boy twelve and a half years old, in whom the external iliac was tied on November 10; the case has as yet progressed favorably; the subsequent history is promised.

THE "FAITH CURE" ESTABLISHMENT OF BUFFALO has been broken up by reason of lack of funds. The inference is unavoidable that the power of faith may be equal to such a trivial work as the cure of disease, but is not equal to the more arduous task of raising a sufficient supply of money to keep the institution in operation.

A DIRECTORY FOR NURSES IN TORONTO has been established under the auspices of the Toronto Medical Society.

PROF. VIRCHOW'S HEALTH.—Our latest German exchanges announce a steady improvement in Prof. Virchow's health. He has been suffering for some time from an attack of acute nephritis, complicated by rheumatic neuralgia, and commencing with slight hemorrhage. He is now free from fever, and the amount of albumen in his urine is steadily declining.

JEFFERSON MEDICAL COLLEGE.—The trustees of Jefferson Medical College, Philadelphia, have elected DR. J. SOLIS COHEN Honorary Professor of Laryngology.

SIR THOMAS WATSON.—The latest English journals report that Sir Thomas Watson has been gradually growing weaker, and his sufferings have been increasing.

A MALPRACTICE TRIAL IN MICHIGAN.—In the suit of Wood *vs.* Barker, Mr. Justice Campbell, the other justices concurring, of the Supreme Court, has just filed the following decision.

Plaintiff, who is a surgeon, sued defendant on his promise to pay for professional services rendered to one Murray, who had been injured by a blast, so that both legs were badly crushed below the knee. Plaintiff was called in as counsel to aid the attending surgeon Dr. Harding, shortly after the accident at Sault Ste. Marie. The left leg was amputated, and they were both of opinion that amputation of the other was expedient, by reason of the extensive comminuted fracture of the bones and laceration involving injury to an artery, to prevent extreme danger of death. The opposition of Murray to this prevented the amputation and the limb was ultimately saved but not entirely restored to its original condition. Some time after the plaintiff had ceased his visits and while the case was in the hands of Dr. Harding, aided by a nurse, Dr. Jessop, of Mackinaw, came over and was employed to treat the patient in connection with Dr. Harding. The only medical testimony in the case was given by plaintiff and Dr. Harding. Dr. Jessop was not sworn. The employment by defendant seems to have been shown, and the questions on which the controversy appears to have turned were the value of the services and the propriety of the treatment.

It is to be observed that there is no conflict of testimony whatever in regard to the fact of the work and attendance of plaintiff, and no testimony which did not leave a considerable sum due him if those services were properly rendered. The court in charging the jury told them in substance that they were at liberty, if not satisfied with the testimony of the experts, to use their own judgment on the question of value. They were also instructed that if plaintiff's course was unskilful, they might reduce the fees accordingly, as in their judgment should be deemed proper. They gave plaintiff nothing. There can be no presumption of law concerning the value of a surgeon's services and there is no presumption that a jury can ascertain it without testimony of some kind, from persons knowing something about such value. As already suggested there was positive testimony of value not discredited, and, in the case of Dr. Harding, given by a disinterested witness called for important purposes by the defendant himself. We can see no sufficient reason for the suggestion that all of this testimony might be disregarded, and there is no rule which would allow the jury to entirely ignore the testimony, and at the same time to form an independent conclusion without testimony upon a matter which required a proof beyond their conjecture or their opinion. We do not say that the value of a physician's services at a given time and place may not be known to other persons than physicians, if they have been in a position to learn the customary or proper rates. But there is no legal presumption and no reasonable probability that all jurymen have this knowledge. And there can be no safety to any one if juries are to use their own unguided views on such matters.

Neither was there any evidence which would justify the jury in reducing the otherwise appropriate compensation on the ground that plaintiff's treatment was improper. There was no such evidence. The fact that the injured limbs were slow in healing and imperfectly healed at last does not necessarily show that the treatment was improper. The injuries as described were of a very aggravated nature, and beyond any ordinary fracture, the limbs being bruised and badly lacerated, the bones crushed, and an artery torn. Both medical witnesses were of opinion that there was danger in leaving the right leg on. There is nothing to show that the course taken under plaintiff's oversight was not the proper one, and nothing to show that when he left the case in the hands of the regular

surgeon and nurse, anything necessary had been omitted or anything done out of the way. On the contrary, not only the plaintiff, but Dr. Harding gave positive testimony the other way. There is nothing to show that plaintiff did not possess and use competent skill. The fact that some time later Dr. Jessop made some change in the management of the remaining limb had no tendency to show that the previous treatment was not proper at the time, and no one testifies it was not. Dr. Harding's testimony indicates entire harmony of views, and Dr. Jessop is not produced to contradict him. No other medical testimony is offered to show any failure of skill or any mistake in the treatment.

Where all the testimony in the case is in favor of the treatment pursued, and the question is one of medical skill which can only be tested by those familiar with such matters, it was error to let the jury draw adverse conclusions, which could only be based on their unprofessional notions of how such injuries should be treated. The fact that Murray survived is not evidence that his case was not desperate in appearance or in fact, and the fact that his limb is not restored to perfect soundness is no proof that he has been maltreated. The jury could not rightly be allowed to find malpractice without testimony from persons who were qualified to give opinions on the methods of treatment.

The judgment must be reversed with costs, and a new trial granted.

DR. C. R. AGNEW ON THE NEW CODE.—DR. AGNEW, of New York, has addressed a letter to the *Louisville Medical News* in response to its strictures on the new Code. He says "Much had been done, it is true, in earlier days by our profession to protect the public, and the old Code had in its day been of great value as one of the few safeguards. But when the population of the country began to grow with marvellous rapidity, and heterogeneous social elements to pour in upon every community, the medical profession with its proscriptive code could do very little that was effective to oppose the tide of charlatanry and medical incompetency. It could do much in its medical schools to advance the standard of education, and thus supply more and better physicians; but the agency of the State came to be more essential in mitigating the evils of quackery and medical incompetency, and in providing and enforcing sanitary laws.

"I have thus, in a few words, hinted at what I believe to be the ruling motives which influenced our State Society to act. And furthermore, many of its members believed that the tone of the profession would be vastly improved if liberty of conscience and judgment were fully accorded to the members of the only one of the three learned professions still not fully in possession of it. And this idea was very influential in forming the new Code and in its adoption by the Society.

"You may ask what do we expect will follow practice under our new Code? Less acrimonious criticism of legally qualified doctors; more careful study of those things which will raise the standard of medical education and character; more activity in those fields of State and national politics which include the great sanitary interests of the people; more vigilance in pursuing medical outlaws; more diffusion of light to educate the people, to lessen irrational credulity, and to reveal the tricks of incompetent or dishonest medical practitioners. It will force us, as a profession, to combine with legislators to protect the people, and become a greater factor in social and sanitary questions."

Dr. Agnew unfortunately fails to point out how the new Code is going to influence these reforms, and this last defence is not likely to make a single convert. In an editorial comment on the letter the *Louisville Medical News* says: "We imagine the thoughtful reader will find no little difficulty in following Dr. Agnew through the premises which seem to have led him to the conclusion that to protect the public from quackery the medical profession should take the quacks into fellowship, and thus publicly recognize them as physicians worthy of confidence and affiliation. We can conceive no proposition more absurd. And again, our metropolitan *confrère*, admitting that the Code of Ethics of the American Medical Association has, "in its day," been of great value as a safeguard to protect the public from quackery, claims that now the population of the country has so increased that it has become ineffective. It must be remembered that the question under consideration is one of ethics, and it must be conceded that what is right in a country of two millions is equally right and just in a population of fifty millions. The great principles of ethics and morals are immutable, and are altered neither by longitude nor latitude, nor by growth of a population in heterogeneous elements. Our correspondent's explanation of the motives of the New York State Medical Society which led to a departure from the Code of Ethics will scarcely satisfy the thoughtful reader of his letter."

CHOLERA PROSPECTS.—DR. PROUST, in a note on the present situation of Southern Europe, with regard to cholera, points out that to pass from India to Europe cholera has heretofore followed two routes. The first in 1823, 1830, and 1847, was the land route from Afghanistan, Persia, and the Caspian Sea. The second is the sea route followed by the epidemic of 1865, viz., by the Red Sea and through Egypt. At the present time the land route does not appear to present any dangers for Europe, but the case is somewhat different as regards the other. Last year the presence of cholera among pilgrims at Mecca exposed Europe to great dangers, and the Egyptian troubles gave rise to very considerable alarm, owing to the proposed reinforcement of the Egyptian army by troops coming from India; this led to the French Government calling the attention of the English foreign office to the desirability of taking special measures to keep out cholera from the Red Sea.

At present all fears of importation by troops coming from India are dissipated. There has not been any cholera in Egypt nor anything resembling it, but cholera exists in many points in the extreme east, in Japan, in the Philippine Islands, in Java, in Sumatra, and in India. This, however, has been the usual condition for the last twenty years; the real danger is in the Red Sea, and is due at present to the Mecca pilgrimage. Cholera, in fact, has appeared on the ship Hesperia from Bombay, with a cargo of five hundred pilgrims. This ship was given a clean bill of health, on the ground that cholera was not epidemic at Bombay, there being only some isolated cases there. This, Dr. Proust insists, was a grave error, the danger of the importation of cholera having no relation to the quantity of the disease at the port of the departure, but rather to the character of the emigrants.—*Sanitary Engineer*, Nov. 16, 1882.

IMMIGRANT INSPECTION SERVICE IN THE WESTERN DISTRICT DURING OCTOBER.—From the monthly report of DR. J. H. RAUCH, the Supervising Inspector of the National Board of Health Immigrant Inspection Service, we learn that of the immigrants arriving in the district during the month, 16,473 were inspected by the Assistant Inspectors, who found 3,353, or about one-fifth of the whole number, whom they deemed it desirable to vaccinate or revaccinate. Among these were 350 who had never been vaccinated at all, and these included an unusually large number of adults.

Of the total number (16,473) of immigrants inspected

in this district during the month, 4,728, or nearly 30 per cent., were susceptible on landing; but 1,364 of these were vaccinated or revaccinated by Eastern inspectors before arriving in the Western District. If this proportion holds good with the total number of immigrants arriving in the country, then only a little over one-third of the susceptible are properly protected in the Eastern inspection districts. This may be due to the reduction in the number of inspectors last month, but it is also probable that the inspectors pay more attention to the immigrants who settle down in their respective districts, and only vaccinate as many of those going beyond their boundaries as they find time and opportunity for.

There have been seven cases of smallpox removed from trains during the month. The first six cases were removed to the Chicago smallpox hospital, and the remaining one, which was discovered at East St. Louis on the Indianapolis & St. Louis Railroad, was taken to the St. Louis quarantine hospital. The infected cars were side-tracked and thoroughly cleansed and disinfected, and all exposed individuals were at once vaccinated.

SMALLPOX IN SOUTHERN AFRICA.—This disease, which has been exceedingly virulent at Cape Town for some time back, has made its appearance at St. Paul de Loanda on the south-west coast. During September, the first month of its presence, there were 178 cases reported, of which 95 proved fatal. The government is taking active steps to meet the disease and restrain it. Vaccination has been made compulsory, and the vaccinating surgeons are supported by a body guard from the Portuguese military forces.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending November 25, 1882, indicate that influenza, diphtheria, and inflammation of the bowels have increased, and that puerperal fever, dysentery, and cholera morbus decreased in area of prevalence.

Including reports by regular observers, and others, diphtheria was reported present during the week ending November 25, and since, at 22 places, scarlet fever at 13 places, and measles at 5 places. Smallpox was reported at Grand Rapids, November 25.

OBITUARY RECORD.—At Newark, N.J., of heart disease, on November 28, in the sixty-first year of his age, ALEXANDER N. DOUGHERTY, M.D., late President of the New Jersey State Medical Society.

Dr. Dougherty was born in Newark, on January 1, 1822. He was educated at Oberlin College, and received his medical degree from the College of Physicians and Surgeons of New York, in 1845. In 1861, he was commissioned a Surgeon of Volunteers, and was made Medical Director of the 2d Army Corps, and subsequently of the Right Grand Division (2d and 9th Corps) of the Army of the Potomac. He was wounded in the battle of the Wilderness. At the close of the war he was mustered out of the service with the rank of Brevet-Colonel. In 1866, he was appointed Postmaster at Newark, and served for two years. He was formerly President of the Essex County Medical Society, and in 1880 he was elected President of the State Medical Society. He was Surgeon and Commandant of the New Jersey Home for Disabled Soldiers, at Newark; and Surgeon to St. Michael's Hospital, Newark. The Essex County Medical Society adopted appropriate resolutions on the death of their late President. Dr. Dougherty's funeral was attended by General Hancock and staff, General Campbell and staff of the New Jersey Grand Army of the Republic, the various Grand Army posts of Newark and Orange, and the inmates of the Soldiers' Home at Newark, besides various societies.

——— DIED in New York, on December 2, 1882, in the forty-fifth year of his age, DR. JOHN PHILLIPS PAYSON WHITE, M.D., attending surgeon to Bellevue Hospital. Dr. White was born in Southampton, July 4, 1838. He graduated in the arts at Williams College, and later in medicine at the College of Physicians and Surgeons in New York. When the Rebellion broke out, he accepted a commission as Assistant Surgeon of the 9th New York Volunteer Infantry. He was soon made a surgeon, and in the latter part of the year was appointed medical purveyor of the Army of the Potomac. He accompanied General Burnside on his expedition to the Carolinas, and on returning entered the 10th New York Volunteers. He was temporarily Medical Director of a division of the Army of the Potomac, and subsequently was made Assistant Surgeon-General, with the rank of Lieutenant-Colonel. He was consulting physician of the Women's College, and a member of the New York State Medical Society and Academy of Medicine.

RESOLUTIONS OF THE RAMSEY COUNTY MEDICAL SOCIETY ON THE DEATH OF DR. WHILLDIN.—At a meeting of the Ramsey County Medical Society, the following action was taken with reference to the death of DR. WHILLDIN, of Saint Paul.

Whereas, Our friend and associate, DR. JOHN S. WHILLDIN, has been suddenly removed by death; and

Whereas, Even during his brief residence among us he had greatly commended himself to our esteem by his upright character, his uniform courtesy and kindliness, and his many engaging qualities; therefore, be it

Resolved, That in Dr. Whilldin we recognize the traits which justly entitle him to be remembered as a sincere friend, a thoroughly competent physician, and a Christian gentleman.

Resolved, That in Dr. Whilldin's death we have not only suffered personal loss, but that our Society and profession have been deprived of one who promised to contribute materially to their success and usefulness.

Resolved, That these resolutions be published in the *Pioneer-Press* of this city, and in the MEDICAL NEWS, of Philadelphia.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 27 TO DECEMBER 4, 1882.

CALDWELL, DANIEL G., *Captain and Assistant Surgeon.*—Leave of absence granted in Special Orders, No. 105, Oct. 3, 1882, Department of the Platte, extended three months.—*S. O. 279, A. G. O., December* 1, 1882.

POWELL, J. L., *Assistant Surgeon.*—Relieved from temporary duty as attending surgeon at headquarters Department of Texas, and to proceed to Fort Davis, Texas, and report to the commanding officer for duty.—*S. O. 129, Department of Texas, November* 23, 1882.

GRAY, WILLIAM W., *First Lieutenant and Assistant Surgeon.*—The leave of absence granted on surgeon's certificate of disability, October 31, 1882, Department of the South, is extended five months on surgeon's certificate of disability.—*Par. 3, S. O. 278, A. G. O., November* 29, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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ORIGINAL LECTURES.

THE TREATMENT OF SPINAL DISEASES.

A clinical lecture delivered at the Jefferson Medical College, Session of 1882–83.

BY ROBERTS BARTHOLOW, M.D., LL.D.,

PROFESSOR OF MATERIA MEDICA AND GENERAL THERAPEUTICS IN THE JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

GENTLEMEN: No thoughtful student can have failed to observe the greater attention paid to the pathology and diagnosis of spinal diseases than to their therapy. Indeed, the treatment is usually dismissed in a few words, as an unsatisfactory subject. Notwithstanding I have, myself, as a teacher of therapeutics, given rather more than ordinary attention during my lectures here to this department of the subject, I must still admit that my efforts in this direction have not been as full as the importance of the subject demands. I have now to make an effort to supply this omission—to place before you the more recent results attained in the treatment of spinal affections. By thus taking a comprehensive view of the whole field, we may the better comprehend the relation of the several parts and arrive at conclusions more accurately than by the consideration of individual maladies only.

From the therapeutical point of view, these spinal diseases may be comprehended in three groups: Acute inflammatory, chronic inflammatory, and nutritional diseases. It is of no special importance to fix the precise seat of the inflammation, for the principles underlying the therapeutical management are the same. To a just estimate of the curative effect of remedies in these inflammatory affections, a true conception of the spinal circulation is necessary. Look at this diagram. Observe the voluminous and tortuous veins of the spinal canal. To the nutritious arteries of the cord they bear the numerical proportion of four to one. In other words, if the capacity of the arterial supply be put at *one*, the venous capacity must be stated as *four*. It follows that the blood current sent into the spinal canal through the arteries must be slowed there to fill out the veins. This, you will explain, is an arrangement to facilitate the functional work of the spinal cord, under the various conditions interfering with the normal and equable blood-supply. Without stopping to consider the necessity, we are now concerned with the fact, simply. The blood-supply having this peculiar arrangement, do these anatomical conditions affect the question of remedies? I unhesitatingly answer this question in the affirmative.

One of the remedies most relied on to affect the intra-spinal circulation is ergot. I hold that its administration in acute spinal inflammation is improper, because of the peculiarity of its action. It induces an anæmia of the arterial distribution—an ischæmia, properly speaking—but the blood, thus driven from the arterial side, accumulates on the venous side; hence it follows that whilst the arterial supply may be reduced, the veins of the spinal canal are distended unduly. The compression thus exerted on the cord has, as I conceive, a most hurtful influence on its nutrition, and hastens the progress of the changes inaugurated by the inflammation.

If ergot is inadmissible in acute inflammation of the intra-spinal organs, to what remedies shall we then resort? You may not be at all prepared for the statement I have to make, but, speaking from the standpoint of my personal observation, I have to say that aconite, digitalis, veratrum viride, opium, and bromide of potassium are the most useful remedies in the cases of acute spinal inflammation. Each, however, has its special range of utility. All agree in the power to limit the blood supply to the spinal canal, but in what degree, if at all, does each affect the intra-spinal venous circulation? Far more than ergot. If I may again refer to my own experience, I can recommend the use of digitalis first, and, if this disagree with the stomach, aconite. You will find it most useful to begin with the infusion of digitalis, administering from a tea- to a tablespoonful every four hours, until the conditions for which it is used cease, or the stomach fails to retain it. If irritability of the stomach is a bar to its internal use, it may be effectively employed topically, the leaves being steeped in hot water, placed in a porous bag, and applied to the spine or abdomen. This remedy, you will find, will do more to restore the normal balance of the intra-spinal circulation than any other now at our command.

Next to it in point of utility is the tincture of aconite root. This must be given until the characteristic tingling is produced, or the pulse-rate is lowered. Acting both on the skin and kidneys, it favors the excretion of the products of inflammatory waste. Veratrum viride is not as useful as aconite—its action little extending beyond the hydrostatic effects. Opium, especially morphia, hypodermatically, becomes indispensable when pain is a pronounced feature in all cases, and experience has shown its utility in meningeal inflammation. The bromides, especially bromide of potassium, are indicated when reflex, convulsive phenomena are present; such as muscular cramp, twitchings, etc., indicating irritation of the motor tract.

Are there any data by means of which we may fix the time for the administration of the arterial sedatives? As these remedies only affect the vessels primarily, and secondarily the structure of tissue, when shall they be discontinued? In respect to this point, there is always no little indecision; but a correct conclusion may be reached by a careful consideration of those symptoms, indicating the occurrence of exudations—symptoms whether of excitation or of depression of function. So long as the symptoms of excitation—hyperæsthesia and spasm—continue, there can be no doubt that those remedies will be useful which have to do with the blood supply. When exudations occur and pressure is thereby brought to bear on the intra-spinal organs, the symptoms of depression or of arrest of function come on—anæsthesia and paresis.

Arterial depressants can do no possible good; only injury, indeed, when the local status is no longer that of hyperæmia and excited action; when the process of effusion and exudation comes on, we have to deal with depression of function. Remedies having very different powers then come into use.

Merely fluid effusion into the spinal canal is more easily disposed of than a solid exudation. Usually, however, the products of inflammation include both fluid and solid exudations. Absorption of merely fluid exudation may be affected by a judicious combination of purgatives and diaphoretics, especially of Epsom salts and pilocarpine. The disposition of solid exudations is more difficult. Considerable experience with the use of ammonia and its salts, especially of the

acetate and carbonate, has given me very positive confidence in the power of this remedy. The most convenient mode of administering it is to dissolve the carbonate in the officinal *liquor ammonii acetatis*, so that five grains of the former will be given in a tablespoonful of the latter. At or about the time when the symptoms of depression, due to the pouring out of an exudation, come on, the solution of ammonia should be administered. The important point is to so alkalinize the blood, that local thrombus and solid exudations may be reabsorbed. To accomplish this result, it is necessary to keep the blood well alkalinized. Although this may fail, it is surely the most promising expedient in such cases, and experience has proved its utility.

If the physician is so fortunate as to see the case at the very moment of its inception, the best results are to be expected from the administration of a maximum dose of quinine and morphine—20 grains of the former and one-half grain of the latter; but unfortunately, cases of acute spinal inflammation are not often seen at their beginning. The attempts to jugulate an inflammation can therefore be very rarely made with success. The cases of chronic inflammation are relatively more frequent. They succeed to the acute; they may arise *de novo*. Hyperplasia of the neuroglia, granular degeneration of nerve fibres and cells, fatty and granular degeneration of the intima of the vessels, and crowding of the perivascular lymph-spaces with leucocytes, are the most important initial changes, and these lead to various inflammatory and atrophic lesions. The various scleroses belong to the group of chronic inflammatory affections—such as antero-lateral and posterior spinal sclerosis. The alterations extend over many years, but they are, properly speaking, of the chronic inflammatory type. It must be obvious to you that some of the most important therapeutical questions are concerned in the management of these affections. The means employed are partly topical; partly systemic. A daily morning and evening hot douche to the spine, of fifteen minute's duration. I have found it to be exceedingly effective.

In the absence of suitable appliances for the douche, a sponge dipped in hot water and passed over the spine rapidly for fifteen minutes at a time may be accepted as its equivalent. You may regard this as trivial, but I assure you the day of small things has not yet passed. The importance of physical impressions on the peripheral nerves is indeed very great. Strumpf, the well-known neurologist of Düsseldorf, has lately got remarkable curative results in posterior spinal sclerosis by cutaneous faradization, by excitation with the faradic brush of the skin of the back, especially of the spine and of the limbs. This method consists in passing the faradic brush for a half hour at a time thoroughly over the parts in which the lesion is known to exist, and over those parts in which symptoms are felt. You will probably feel inclined to ask, How can cutaneous faradization effect the cure of a disease which has hitherto resisted the most efficient treatment? It may be quite impossible to give an adequate explanation, but it is certain that peripheral irritation, if restrained within proper limits, has a remarkable curative effect on the condition of internal organs so situated as to be in anatomical relation to the site of irritation. Thus, Strumpf has found that cutaneous faradization of one side will cause an increase of the temperature in the corresponding position on the other side. Erb strongly advocates the use of the rubbing wet-pack in chronic myelitis. He does not advise cold or hot water, but merely tepid. The patient, enveloped in a sheet wrung out in tepid water, is gently rubbed with the sheet *in situ*. To the same class of actions belongs massage, but this alone has, in my experience, been disappointing. If the application can be confined to the gentlest titillation of the cutaneous nerves, good may come of it; but in the spinal trouble I am referring to, all violent rubbing and kneading apparently does mischief. Granville's *percutier*, lightly used, has a good effect also. It is a matter within the range of everybody's experience that the most painful inflamed surface will be anæsthetized by the gentlest friction if persistently employed. It is probable, therefore, that the good effects of peripheral applications in spinal affections are largely due to the communication of very gentle impulses originated at the periphery, in the sensory terminals.

Besides these topical applications which act through the sensory nerves, there is a local remedy which acts directly on the cord—galvanism. Since it has been shown that the galvanic current penetrates through the bony envelope of the cord, the only question is as to the mode of applying the electrodes. Strangely enough, opinions are yet divided as to the effect of direct or inverse currents. My own conviction is, that the view of Onimus and Legros is substantially correct. According to them, the descending galvanic current increases the activity of the circulation in the part acted on, by stimulating the vermicular contractions of the organic muscular fibre of the vessels. The result of such increased vermicular motion, must necessarily be a more active circulation, and more rapid interchanges between the blood and the tissues. A descending galvanic current must therefore promote the nutrition of parts, if we admit the correctness of the views enunciated by Onimus and Legros. It is, therefore, in chronic spinal affections that we have a right to expect the best results from galvanic treatment. As the resistance offered by the bones of the spinal column is so great, the electro-motive force of the galvanic battery must be sufficient to overcome it.

To treat such cases efficiently, not only must the number of elements be large, but the resistance within the battery must be nearly that of the part of the body acted upon, to avoid the shock and burning pain. The electrodes should be of large, well-moistened sponges—one placed on the nape of the neck, the other on the sacrum. As the strength of current required for these spinal applications is so great, unless the sponges are large and well moistened, very severe burning will be produced. The number of elements required will be from thirty to sixty, or the strength in *milleampères*, from ten to twenty. There should be a daily *séance* of ten to fifteen minutes' duration, and the treatment should be continued over many months to obtain permanent results. It is the neglect of these measures, inattention to details, and impatience over delays that have led to so much disappointment in the application of galvanism. I am, from personal observation, fully able to confirm the high estimate placed by Erb on this method of treating chronic spinal affections. Neither galvanism nor any other remedy can restore lost parts; hence, when the anatomical elements are destroyed, function must ever after be imperfectly performed.

I must now call your attention to the most useful internal remedies in chronic cases of spinal inflammation. The best results have been obtained from the so-called metallic tonics, notably nitrate of silver, but the danger of staining and of causing gastric ulceration are serious objections to the persistent administration of silver salts. In the scleroses, and in connective tissue hyperplasia of organs in general, I have seen excellent results from the internal use of the chloride of gold and sodium. This may be given in a granule containing one-twentieth of a grain three times a day. The corrosive chloride of mercury has similar effects, but it does not seem to me to be equal in curative power to the gold chloride.

There are so many ways, owing to the almost universal use in domestic life of the noxious metals, for slow metallic poisoning to occur, that the affections thus produced are probably much more numerous than we are now aware of. A typical example of locomotor ataxia came into my hands, in the person of a water gilder. Syphilis is now held to be the chief pathogenetic factor in this disease, but there are two modes in which this relation exists—direct and indirect. Syphiloma occurs when the first cutaneous lesions appear, but especially during the time of the older constitutional symptoms. The first are comparatively mild, the second consist of gummata, etc. These lesions are direct—that is, they belong to the ordinary course of development—of evolution of the disease. The indirect arise because of the cachexia—the lowered vital resistance of the organism, produced by the long-continued operation of the syphilitic disease and of the remedies used to remove it. In the former, or the direct syphilitic lesions, the specific remedies are curative; in the latter or indirect, they rarely do good; in fact, their administration is adding insult to injury, in many instances.

I have long entertained the notion that the utility—the remarkable utility—of iodide of potassium in some cases is due to one of two conditions: to an overlooked syphilitic infection; to metallic poisoning. This is so certainly a fact, that in doubtful cases I advise the use of full doses of iodide of potassium as a preliminary to further treatment. In all distinctly specific cases there can be no possible doubt in regard to the efficacy of anti-syphilitic treatment. Now let me tell you a fact not generally known, or, if known, not sufficiently appreciated: Mercury, in syphiloma of the nervous system, tertiary in type, is, in some instances, quickly curative when the iodides fail utterly. *When there is reason to suspect mineral poisoning, and in all doubtful cases, the iodides should be administered in full doses, either tentatively or as the major treatment.*

The third group, from the therapeutical point of view, consists of those spinal disorders not due to a recognizable inflammatory process, but to some change in the function of nutrition. In this position may be placed the changes that are senile, whether of time or prematurely. The most important therapeutical point in these cases is to supply the material in which the tissues are deficient. A combination of the lime salts—the phosphate especially—with a fat, cod-liver oil, is most useful in these cases, but good results can be reached only by persistent use of the means of treatment. In these cases of senile degeneration, much good is accomplished by the use of the salts of ammonia to prevent the formation of thromboses, or to effect their solution if formed. Strychnia and quinine, to stimulate the organic functions, render an important service also.

The subcutaneous use of strychnia is often remarkably effective in all of the chronic spinal affections characterized by loss of muscular power. It is, of course, inadmissable in those stages of these maladies having an active state of the local circulation—in all acute cases, in chronic cases with acute exacerbations. The quantity to use in this way ranges from $\frac{1}{60}$ to $\frac{1}{30}$ grain daily, once, or on alternate days. The hypodermatic injection of strychnia may, indeed, serve as a means of distinguishing the character of the spinal trouble. It increases the paralytic symptoms when an inflammatory condition is present, and improves the functional and chronic diseases.

Galvanism, applied as already pointed out, to stimulate the spinal circulation, and faradism at the periphery, contribute to the nutrition of the cord by promoting the activity of the circulation in general. By a proper combination of these expedients, we can often effect very decided improvement.

As you will observe, I have not alluded to the treatment of the large group of so-called functional disorders of the spinal cord. The consideration of this is a sufficiently fruitful topic of itself for a lecture—for many lectures, indeed—and hence I must postpone it to a more convenient season.

ORIGINAL ARTICLES.

PNEUMO-URIA.

BY E. L. KEYES, M.D.,
PROFESSOR OF CUTANEOUS AND GENITO-URINARY DISEASES IN BELLEVUE HOSPITAL MEDICAL COLLEGE; SURGEON TO BELLEVUE HOSPITAL, NEW YORK.

SURGEONS are for the most part in accord in believing that when gas is found within the human bladder its presence there is to be accounted for only by assuming that it has been introduced from without, through the urethra, or through a vesico-intestinal fistula, or that it is due to decomposition of the urine, or of blood-clot in the urine.

That a gas resembling air, colorless, sweet and pure, not ammoniacal, not sulphuretted hydrogen, and not introduced from without, that such a gas may form within the bladder is not generally credited by the best-informed members of the medical profession.

Having two cases bearing directly upon this question I think it proper to place them on record, the more so since I find that the subject has been already alluded to by several writers, notably Bouchut, and the malady by him considered a neurosis. The name pneumo-uria was given it by Raciborski.

The record of the following cases may serve to call attention to the subject and bring to light other instances in point.

CASE I.—In February, 1868, a gentleman of 67 applied to Dr. Van Buren for relief from frequency of urination with some urgency in the desire to accomplish the act, with night calls, etc., symptoms from which he had suffered for ten years, and which were plainly due to failure in expulsive energy on the part of the bladder and to a prostate one-third larger than normal. His urine was acid, 1020, containing a small amount of pus. He could not entirely empty his bladder. There was no gas in the bladder at this date.

Under the use of a catheter improvement in urination was noted, but gradually with a steady increase in the size of the prostate it became impossible for the patient to retain his water, when the call to urinate came suddenly upon him, and he was forced to resort to the use of a urinal in travelling, and upon going out in the evening. Later it became impossible to pass any instrument into the bladder, and finally, in the summer of 1873, the patient died from kidney disease in the classical mode of death commonly attendant upon prolonged obstructive prostatic disease.

I never attended him directly until during his last days. Dr. Van Buren remembers that the patient passed gas occasionally from his penis, but I made

no especial note of the fact and cannot remember the dates, although I do remember examining the urine for Dr. Van Buren, for foreign matter and finding none.

After death the body was placed immediately upon ice, and in about twenty-four hours I made an autopsy, mainly to determine why instruments would not enter the bladder.

On opening the abdomen the bladder was seen fully distended, and evidently about half-full of gas. There was no evidence of decomposition about the intestines. The outside of the bladder was not inflamed or adherent to any intestine. I inferred at once that the gas had entered the bladder from a fistula communicating with the bowel, and therefore cut into its dome, allowing all the gas to escape, that I might examine the perforation *in situ*. The bas-fond of the bladder contained urine not putrid—and, as I remember it, not specially ammoniacal—but I searched in vain for a perforation. No fecal matter was in the bladder. I searched among the small intestines and along the top of the bladder, but found no perforation. I removed the bladder, but obtained no clue to the possible source of the gas.

I therefore concluded that the gas was due to some form of decomposition of the urine and made no further investigation. The prostate was quite large and its canal distorted, thus explaining why no instrument had found its way into the bladder.

This case is suggestive only, not demonstrative. The gas was never examined. I had never heard of the existence of gas in the bladder at that date, except as a result of fistula into the intestine. I did not preserve the bladder. I took no written notes at the time of making the autopsy, and my memory as to the exact condition of the urine may be defective. I therefore present the case for what it may be worth. It puzzled me at the time. Whether it was a case of true pneumo-uria or not, I cannot say. It seems to me possible that it was.

Case II.—X., aged 68, was referred to me by Dr. Schnetter, in September, 1868, his complaint being frequent urination by day and by night, and the passage of wind by the urethra. His frequency of urination had existed something more than a year. He had begun to pass air by the urethra only a few days before visiting me. His urine was alkaline, 1030, containing a little pus; but no starch granules, meat fibres, or other foreign matter. The fluid was murky and possessed of a faintly sweetish ammoniacal odor. A No. 18 (French scale) Mercier catheter entered the bladder without encountering any obstacle, and through it escaped two ounces of reasonably clear urine, followed by a small amount of gas, devoid of any odor. The prostate was slightly enlarged. The patient complained of much pain in the perineum and rectum.

Both testicles became swollen on different occasions later on, and he had considerable discomfort from suppurative eczematous outbreaks about the thighs and scrotum. He was treated symptomatically for these complications, and by sounds and attempts at vesical irrigation together with alkaline diluents, anodynes, and tonics. But he failed steadily in general health and became quite yellow and cachectic. The most minute microscopic examinations of the urinary sediment, carefully repeated at short intervals, were uniformly negative in their results, so far as finding any foreign body that might have come from the intestine was concerned.

In December I asked Dr. Weir to see the patient with me, and we examined him very carefully under ether, with the coöperation of Dr. Schnetter, and of Dr. Ferdinand, of Harlem. Rectal examination showed a prostate but little enlarged. Between the rectum and the bladder, particularly on the left side, there existed a distinct inflammatory thickening of the vesico-rectal septum; it was smooth and regular, not at all nodular, and not suggestive of cancer. On the rectal side as far as the finger could reach, or the eye by the aid of a speculum, there was no ulceration, erosion, or fistula. The inflammatory thickening extended higher than the finger could reach.

A sound in the bladder felt through the vesico-rectal walls showed a moderate amount of thickening not nodular in character. Through a soft catheter the bladder was injected to its fullest capacity under pressure, but no fluid could be seen to trickle into the rectum with the speculum in position. No growth could be felt within the bladder by the searcher. No stone was present.

No chill followed this examination, but the amount of gas passed by the urethra became greatly increased; the urine ammoniacal and putrid. Dr. Ferdinand examined the gas and found it to contain sulphuretted hydrogen. I examined the gas and found it to contain sulphuretted hydrogen; the urine also contained considerable sulphuretted hydrogen in solution. No vegetable cells or meat fibres, or other débris of food, could be found in the urine. Pus, altered epithelial cells, and blood, constituted the deposit, with a few crystals of uric acid, and of triple phosphate.

Under cod-liver oil and local and general measures, the patient's strength and health gradually improved, so that two months later, in February, 1882, the urine was clear and sparkling, 1020, acid, and contained only a few pus cells; but the gas continued. I now drew off the urine and caught the gas for examination, finding it free from sulphuretted hydrogen. The urine was now not ammoniacal, and contained no sulphuretted hydrogen.

This condition of affairs continued through the spring with a gradual gain in ordinary health and strength. In the month of March the bowels became deranged, and the patient passed great quantities of very offensive gas by the rectum. During this period the quantity of gas passed by the urethra greatly diminished, and what did escape was perfectly sweet. In April, the gas from the rectum nearly ceased, while that from the bladder greatly increased in quantity.

In April, the urine being quite clear, I passed a catheter in my office, and drew off under a water-bath into a test-tube 30 cc. of gas, more than an equal quantity escaping after the tube was full. I corked the tube tightly while it was still under water,

and sent it immediately to Prof. Welch, of Bellevue Hospital Medical College, for examination. He pronounced the gas to be simple air, and ventured in explanation that whatever other gas was within the tube had diffused itself through the cork, yet he had the tube within the hour after it had been filled and tightly corked, and his examination corresponded with mine, which was made on the spot.

In May the patient had reached his full normal weight, 149 pounds; the urine continued clear and acid, with a very trifling amount of pus; the gas persisted, but was perfectly sweet.

In July I sent the patient to Europe with letters to Sir Henry Thompson and to Felix Guion. Sir Henry examined him quite thoroughly, and reported to me a negative result. The patient had no gas in his bladder at the time of the examination. No tumor was found by rectal examination, or by the searcher; yet, as there had been occasional slight hæmaturia, and as there were some distorted epithelial cells with large nuclei in the urine, Sir Henry leaned to a diagnosis of cancer, and advised exploration by the finger through the perineum on the patient's return to New York. As to gas in the bladder, Sir Henry observed in his letter: "I have never seen any evidence to my mind warranting me to believe in the production of gas in the bladder, apart from its introduction by the intestine or from without. I by no means deny the possibility, and would be greatly interested in seeing such a case," etc. The patient was made so sore by the thorough examination of Thompson, that he feared to visit Guion; but went in Paris to see Mallez, who did not examine him physically, and gave no opinion except that gas in the bladder was not very uncommon. In France the patient improved daily during twenty-four days, eating and drinking whatever he liked. He passed no gas. No blood escaped his urethra after leaving London, and he returned to New York in the middle of October, passing acid, clear urine, with a light sediment of pus, still passing gas and urinating altogether too frequently; but having gained a number of pounds on his trip, feeling strong and reasonably well, and looking vastly better than at any time for the past eighteen months.

The gas in this case has never contained sulphuretted hydrogen when the urine was clear and acid. Dr. Schnetter ventured the opinion that a communication existed between the bladder and the small intestine, the gases of which intestine are usually air and carbonic acid—but the urine did not contain any excess of carbonates. The gas has not been examined for carbonic acid. It is difficult to obtain it, as the patient objects to the use of a catheter. Moreover, the cellulitis only seemed to involve the vesico-rectal septum. It is to be noted that when the intestines were full of gas, the bladder did not contain as much gas as usual.

There was never any evidence of an escape of urine into the intestinal passages, and certainly no débris of food could ever be detected in the urine. An opening, if one existed, must have been either the track of an abscess (due to the cellulitis) or a cancerous erosion. It could not have been the latter, since the patient's health has improved immensely for six months. If it was the track of an abscess, it must have been very minute, since no urine ever passed through it into the bowel, and it should have closed when the cellulitis got well; Thompson discovered no evidences of cellulitis by the rectal touch.

That there is no intestinal fistula in this case I cannot assert, since the crucial test of an autopsy is lacking; yet the character of the gas and of the urine both tend to substantiate a belief that this may be one of those peculiar cases where a gas resembling air forms in the bladder from causes as yet not understood.

I have found in the literature of the subject two such cases sufficiently accurate in their description to make them acceptable, but unfortunately I have found no case verified by an autopsy, so that the sceptical are still justified in doubting. My own recorded autopsy fails to be conclusive only on the ground that no chemical examination was made of the urine to eliminate the possibility of the decomposition of that fluid as a factor in the gas formation. My memory of the condition of the urine, however, is quite clear. I am absolutely certain that the urine was not putrid.

But for the rarity of the occurrence of the phenomenon, it is not harder to believe that the walls of the bladder can secrete air than to believe the same of the walls of the stomach or intestine. It is not so extraordinary or inexplicable as the colpohyperplasia cystica[1] of Winkel (vaginitis emphysematosa), or any more strange than the formation of gas in the uterus, as vouched for by Bianchi, Astruc, Cullen, and referred to by A. Brierre de Boisemont in his interesting thesis, "*Recherches sur les Pneumatoses, ou sécrétions gazeuses observées dans divers tissus de l'Economie animale.*"[2]

This thesis indeed makes the clearest mention of air in the bladder which I have been able to find, referring as it does, without detail, to a case reported by Wedel in the *Miscellanea curiosa*, p. 85, and stating that Ribes, when prosector to the Medical School at Paris, showed his students an infant whose only malady was the passage of gas by the penis ("qui n'avait pour toute maladie que cette émission de gaz"). He states further that the urine was in no way decomposed, but had all the characters of the urine of a healthy individual.

The most closely observed case of this malady which I have found is one reported by Raciborski, and given at length under the name pneumo-uria in Bouchut's treatise *Du Nervosisme.*[3] I condense it as follows: M. O., 40, a nervous hypochondriacal individual, became alarmed at seeing bubbles of air escape from the meatus toward the end of the act of urination. Raciborski visited him, having the urinary specialist Mercier and the chemist Mialhe in consultation. The latter drew off through a catheter the odorless gas which the bladder contained, directing it under water into a receiver. He examined the gas and the urine, finding the latter normal in composition and the former to be

[1] Archiv. fur Gynäkologie, 1877, II., 406.
[2] Thèse de Paris, No. 201, 1825, p. 15.
[3] Second ed., Paris, 1877, p. 245

nitrogen. From this he concluded that the gas was air, the oxygen having been absorbed by the urine. Except nervous symptoms, this patient had had no evidence of any malady of the bladder or of the neighboring organs.

On another occasion, to exclude all foreign sources of air, Mercier passed the catheter upon the patient while he was submerged in a full bath—this in the presence of Drs. Mialhe and Raciborski. Air was obtained as before.

Once, after a voyage of four days to Bordeaux, no gas was found in the bladder on passing the catheter —an analogy with the respite of twenty-four days which my patient experienced after his voyage from New York to Paris.

Raciborski's patient often had difficulty in voiding the urine, particularly in the morning, and sometimes had to make repeated efforts before he could empty the bladder. He had also pains in the renal regions, about the bladder, loins, groins, and thighs. A postscriptum to the case states that during two weeks no air had been found by the catheter, introduced on two occasions, and here the history ceases abruptly.

These few particulars are all the details I can offer concerning this strange malady, pneumo-uria. Its existence is not yet clearly proved, but Mallez seems to accept it, since he assured my patient, who saw him in Paris, that it was far from uncommon for gas to form in the bladder, and that he, the patient, should not be too much concerned about it. Closer observation of cases of this sort is desirable, and an example of it, carefully studied through life, and verified by a reliable autopsy, would be of the utmost value in establishing the existence of the malady upon a sound basis.

CLINICAL REMARKS ON SEVERAL CASES OF PANCREATIC DISEASE.

BY WILLIAM PEPPER, M.D., LL.D.,
PROVOST AND PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA.

IT is unfortunate to have much to say, and yet to have no intelligible language in which to express it. This is somewhat the lot of the pancreas. Composed as this organ is of lobulated glandular tissue, with abundant interstitial connective tissue, and with a system of ducts to carry off the secretions, and well supplied with nerves and bloodvessels, it could not be otherwise than that it should be liable to a variety of diseases.

Morbid anatomy teaches us, accordingly, that the glandular tissue may be the seat of degenerations; the interstitial tissue the seat of inflammation or of neoplasms; and the secretory ducts, the seat of catarrhal inflammation, of calculous formations, or of cystic distention. We are familiar anatomically with fatty degeneration of the pancreas; with atrophic and hypertrophic cirrhosis; with cancer and other morbid growths; with occlusion of the main duct and distention of its radicles; with impaction of the duct; with altered sebaceous secretion; and with pancreatic calculi. But it must be admitted that, clinically, many of these conditions are scarcely present in our minds as actual realities, to be taken into account and searched after in our study of cases of abdominal disease.

The reason of this is not far to seek. The anatomical position and relations of the pancreas render it almost inaccessible to minute examination; the colorless character of its secretion prevents any discoloration of the skin when the duct is obstructed; and the juxtaposition of the stomach, the liver, and the kidneys, the diseases of which are so common and so prominently present in our thoughts, is apt to lead us to refer any symptom of pancreatic disease to some of these other organs.

It can not be doubted, unfortunately, that the inevitable result of this is the frequent failure to recognize important affections of the pancreas, and the reference of the symptoms present to some rather unusual form of gastric or hepatic disease. It may be said, indeed, that but little practical evil results from this, since in the first place many of the affections of the pancreas are incurable, and in the second, the condition of stomach or liver which is erroneously substituted in the diagnosis, will probably be of a character analagous to that actually present in the pancreas, and thus the line of treatment adopted will not be seriously inappropriate. This is a poor excuse, however, and all will acknowledge that if accurate diagnosis of pancreatic diseases were possible, it would be an immense satisfaction to all concerned, would lead to much more reliable prognosis, and would furnish therapeutic indications which might eventually lead to substantial advances in the treatment of these affections. I do not aspire, in the present brief article, to throw any new light on this obscure subject, but merely to record, with a few practical comments, several cases of pancreatic disease that have come under my observation within the past year.

CASE I. *Hypertrophic cirrhosis of liver, with perihepatitis; hypertrophic cirrhosis of pancreas, with chronic catarrh of its duct; chronic catarrhal nephritis; jaundice; ascites; albuminuria; death.*—Emma A., aged 39, of intemperate and immoral habits, and addicted to the use of cigarettes, was admitted to the University Hospital October 12, 1882, and died October 19, 1882. She had had slight, irregular dyspeptic attacks, with habitual constipation, for a year; previous to which time she was strong and healthy. During this year a steadily progressive abdominal enlargement was observed; there was also pain in the abdomen, especially in region of liver, at first dull and occasional, latterly more severe and constant; for the past eight months there had been anorexia and frequent vomiting after taking food (no blood was ever vomited); menstruation ceased eight months ago, and for the past five months there had been occasional epistaxis; jaundice with bile-stained urine began two months ago, and has grown intense; loss of flesh and debility have been steadily progressive. On admission, her weakness was extreme and there were enormous ascites, deep jaundice, albuminuria with granular tube-casts, great enlargement of the liver, and loose, offensive stools. Paracentesis gave temporary relief,

but ascites rapidly returned, and she sank and died seven days after admission.

At the *post-mortem* examination there was hypertrophic cirrhosis of the liver, with marked perihepatitis. There was chronic catarrhal inflammation of the gall-ducts, with marked contraction of the cystic duct and distention of the gall-bladder with thin, pale, yellow mucus.

The pancreas presented a marked state of hypertrophic cirrhosis, with peri-pancreatitis. The pancreatic duct was much narrowed and obstructed by catarrhal products. On section, multitudes of minute collections of cheesy matter were seen to distend the acini of the gland. These statements are abstracted from the admirable report of the necropsy, furnished me by Dr. Formad, who also described the microscopic appearances as showing advanced atrophy of the gland elements, with extensive overgrowth of connective tissue (hypertrophic cirrhosis). In addition, all of the parts which had presented themselves to the naked eye, as little cysts filled with cheesy masses, revealed tubercular granulations with giant cells, obliteration of bloodvessels and well pronounced cheesy changes, these indicating a local tubercular change consequent upon the chronic catarrhal inflammation. The kidneys were in the second stage of catarrhal nephritis.

In this interesting case, which shows so well the pathological affinities of the pancreas and liver, it will be observed that advanced lesions of the pancreas, illustrating cirrhotic inflammation combined with the much more rare form of chronic catarrhal inflammation, described by Klebs under the questionable name of pancreatic acne, were present, and yet would scarcely have been suspected to exist, so completely were any symptoms they may have produced overshadowed by the symptoms of the readily recognized disease of the liver and kidneys. The pain was distinctly referable to the perihepatitis; the jaundice was readily explained by the catarrhal hepatitis, that was evidently associated, as is often the case, with the hypertrophic cirrhosis; and the vomiting, which was much more frequent than in ordinary uncomplicated cirrhosis, was not unreasonably connected with chronic gastric catarrh and the catarrhal nephritis. The brief period the case was under observation prevented an accurate determination of the absence or presence of fatty stools; and there was not even so great a degree of emaciation as might be expected, in so severe and complicated a case. It can not, however, be doubted that the course of this case was modified considerably by such grave lesions of an organ so important as the pancreas.

In the following case ample opportunity was given for study of the symptoms, and for the formation of an accurate differential diagnosis, and yet special peculiarities in the symptoms rendered this a very difficult matter.

CASE II. *Cancer of head of pancreas, with central suppuration; occlusion of gall-duct; perforation of duodenum, with temporary relief; return of occlusion; death.*—Mr. W. C. L., æt. 60, had suffered from a severe concussion of the spine many years previously, which had left a certain degree of neurasthenia, with exaggerated sensitiveness of circulation and digestion. For a number of years it was his habit to have two stools daily, not at all loose, but rather too easy. This was mentioned to me in 1879, and with a view to see if it aided in any way in maintaining the neurasthenia, a course of small doses (gr. ⅛ of nitrate of silver) was given, which promptly checked it and reduced the stools to one daily, which was followed by some improvement in general strength. Occasional slight pain in the stomach was complained of in the latter part of 1879. His health was apparently very good, however, subsequent to this, until, after exposing himself at night on the sea in September, 1880, he had some return of pain and looseness. This yielded readily to simple remedies, and although he continued to have occasional pain in the upper part of the abdomen during the fall and early winter, he attended regularly to his business, and did not have medical advice until January 20, 1881, when jaundice appeared with more marked abdominal pain and looseness of the bowels. The jaundice rapidly grew intense, and was accompanied with debility and loss of flesh.

By March 1st, he was very ill with complete occlusion of the common bile-duct; recurring free epistaxis; slight irregular fever, with average evening temperature of 100½°, with occasional sweats, and with a pulse rate of over 100. There was anorexia, and although the diet was restricted the bowels were opened three or four times daily with white, offensive formed passages. The feces passed very readily, and looked slippery, as though containing undigested fat, but no free oil was seen. He was strictly confined to bed; his food was rigidly restricted; counter-irritation was kept up over the liver, and he took internally a pill of nitrate of silver and opium. He then began to improve slowly but steadily; the fever and sweats subsided, the jaundice grew lighter, appetite improved, the stools were reduced to two daily and began to contain bile; the urine, which had been heavily charged with bile-pigment, grew somewhat lighter, and his spirits and strength improved. There was considerable tenderness in the region of the gall-bladder and duct, and this, combined with the thickness of the abdominal walls, rendered difficult any accurate palpation. It was impossible at any time to isolate any distinct mass or tumor, but there was a slight degree of enlargement of the liver with an indistinct sense of increased resistance on palpation about the position of the gall-duct and head of pancreas. While thus apparently improving however, there was no gain in flesh, even if he did not continue to lose weight. By April 1st, the jaundice and evidences of constitutional irritation were much relieved, and about that date an unaccountable bilious diarrhœa occurred for two or three days, when rapidly all traces of bile disappeared from the urine. The looseness soon ceased, and in a few days there was a rapid return of deep jaundice with highly stained and for the first time slightly albuminous urine; epistaxis recurred; the mind grew dull and wandering, to be soon followed by a coma-

tose state, and death occurred on April 25, 1881, with all the symptoms of profound toxæmia.

Post-mortem examination showed that the head of the pancreas was the seat of cancerous degeneration, forming a rounded hard mass about 2½ inches in diameter, which was closely adherent to the duodenum and the common bile-duct. The centre of the cancerous mass was the seat of suppurative softening, forming a cavity of more than one inch in diameter. At the time of making the autopsy this cavity was distended with a puriform liquid, and in this condition it pressed so strongly upon the common bile-duct as to completely occlude it. But at the point where the growth was most closely attached to the duodenum, there had been an lucerative perforation, which at this time was closed by a valve-like fold of mucous membrane. As soon as this was raised and the pus allowed to discharge itself, the walls of the growth collapsed partially and the bile-duct became patulous. It was thus evident that the progressive obstruction of the duct had been occasioned by the increasing growth of the neoplasm in the head of the pancreas, which pressed more and more upon the duct; that the period of slow, progressive improvement must have corresponded with a gradual evacuation of the soften ng centre of the mass through the ulcerated opening in the duodenal wall; that the slight diarrhœa with rapid abatement of jaundice and clearing of the urine corresponded with a more complete discharge of this character, allowing the growth to collapse partly, and thus render patulous the common bile-duct and enable the pent-up bile to rush into the bowel; and that, finally, after the evacuation, the perforation of the duodenal wall closed again, the cavity began to refill with puriform liquid, the bile-duct again became occluded, and by this time the vital powers and the crasis of the blood were so impaired that the patient speedily sank into a typhoid toxæmic state.

While, however, it is easy, after the post-mortem examination, to explain the various symptoms and their relations, it was far otherwise during life. The history of slight abdominal pain, with looseness of the bowels, seemed to point to catarrhal irritation of the mucous membrane, and when in January jaundice appeared and rapidly grew intense, it would not have been unnatural to conclude that the catarrhal inflammation had extended to the gall-duct, and caused such swelling as to occlude it. The irregular fever was consistent with such a supposition, although we are familiar with the fact that a febrile movement of hectic type, the so-called *hepatic fever*, may be associated with occlusion of the gall-duct from any cause, being probably dependent on putrefactive changes in the retained bile, and consequent septic irritation, as well as on aggravated surface irritation of the mucous membrane lining the distended ducts. While, however, it is true that in this way cancer of the head of the pancreas, pressing upon and occluding the common bile-duct, may indirectly give rise to fever, it was to be noted that in the present case the febrile movement existed before the occlusion of the duct became complete. The existence of suppurative softening in a cancerous mass is also apt to be attended with some irregular fever of hectic type, and I have on various occasions seen great embarrassment in differential diagnosis thus created by the coexistence of pyrexia with conditions which otherwise indicated cancerous disease, a morbid process well known to be ordinarily apyretic.

Occasionally, moreover, the existence of a cancerous growth in the abdomen, just as in the thorax, will be accompanied with subacute local inflammation of the peritoneum or pleura, and thus a moderate degree of fever may attend. Despite the various ways in which the pyrexia present in this case might have been explained upon the supposition that cancerous disease existed, it seemed more plausible to attribute the fever and the jaundice to catarrhal inflammation of the intestinal and hepatic mucous membrane; and this view was of course confirmed by the favorable course of the symptoms during the month of March and the early part of April. It is true that, despite this seeming improvement, there was no apparent gain in weight; but it is difficult to judge of small changes in weight while a patient is in bed; it was clear that no great emaciation occurred until the reappearance of intense jaundice; and, finally, it is usual to find considerable loss of flesh consequent on duodeno-hepatic catarrh. The character and locality of the pain afforded no help in diagnosis. It was not severe or constant, and was referred somewhat vaguely to the upper part of the abdomen. It can not be said that pancreatic disease is attended with any characteristic pain, but still our attention would be more drawn to that organ if pain were complained of as deep-seated, at the lower part of the epigastrium, and at a corresponding part of the back.

The detection of a tumor, central or slightly to the right of the median line, deep-seated, and less movable than a pyloric cancer, is possible in some cases of pancreatic disease, and is of high diagnostic value. But it is by no means in all cases that the tumor can thus be detected, even by the most careful palpation. A coincident enlargement of the liver, as in the present case; dilatation of the stomach; thick, fatty abdominal walls, such as existed here also to a very late period, may render its detection impossible. Even when a pancreatic tumor can be felt, it can rarely be accurately mapped out and localized; and if, as not rarely happens, there is frequent vomiting present in consequence of irritation of the stomach, or of its implication in the morbid process, the mass detected is apt to be regarded as of gastric origin.

The condition of the intestinal digestion and the fecal discharges should be studied with minute care in all cases of chronic abdominal disease, and light will occasionally be thrown from this source on the diagnosis of pancreatic disease. It is well known that fatty stools are present in some cases of obstruction of the pancreatic duct or of extensive degeneration of the glandular tissue. It is true that they are sometimes absent, or, at least, that there is no appearance of free fat in the stools; and, on the other hand, it is also true that in severe hepatic disease fatty stools may occur. Still their

presence in any case, especially if deep jaundice be not present at the same time, is certainly a valuable diagnostic symptom. The character of the stools in the case here recorded is instructive, as showing that a mere naked-eye examination is entirely insufficient; for while at no time was any free fatty matter observable, I am confident, from their slippery appearance, that microscopical examination (unfortunately neglected) would have revealed a great excess of unaltered and unabsorbed oil.

Space will not allow me to now report and comment on a case of pancreatic calculus, but it will be presented in a subsequent article. The practical points the cases here published serve to illustrate are, that cirrhosis of the pancreas, which is not a very rare disease, is usually associated with cirrhosis of the liver, and, possibly, also of the kidneys; that its symptoms are apt to be masked by those pertaining to the latter organs; that unusually marked intestinal dyspepsia, with possibly frequent vomiting, an unusually rapid rate of emaciation, and the occurrence of fatty stools, would be the features which would influence us in deciding that in a case of hepatic cirrhosis the pancreas was also involved. And, again, that in malignant disease of the pancreas the symptoms most likely to occur are, in addition to progressive debility and anæmia, pain, vomiting, tumor, jaundice, intestinal indigestion, with tendency to loose and fatty stools; but that in any given case we rarely find all of these symptoms present, and that even when they are, as in the case of Mr. L. here recorded, they require to be analyzed and studied with unusual care, or otherwise there is much risk of confounding the case with one of disease of the liver (cancer, chronic catarrhal inflammation, etc.), or of the liver and stomach combined. Finally, the peculiar train of symptoms induced in the case of Mr. L. by the alternate distention and collapse of the pancreatic tumor, although possibly unique, should be borne in mind in case of a similar group of phenomena occurring in the future.

(*To be continued.*)

HOSPITAL NOTES.

NEW YORK EYE AND EAR INFIRMARY.

(Service of Richard H. Derby, M.D.)

CASE OF HODGKIN'S DISEASE, WITH TUMORS OF BOTH LACHRYMAL GLANDS.

Patient S. B., aged 51, of Nova Scotia; thirty-three years ago had left leg amputated below the knee for disease. Has worn artificial limb and enjoyed general good health. Two years ago first noticed swelling in left groin, a few months later same in right; eighteen months ago had slight ptosis; then complained of drowsiness; within twelve months noticed signs of present deformity about eyes; these ocular changes have not been accompanied with pain—once he had diplopia when he thought on the street a man was driving two horses when in fact there was but one. There has been slight gradual failure of sight up to the present time.

The woodcut shows as well as any single view can the striking features of this case.

Each eye is pushed slightly downward and inward, but there is no exophthalmos, and its movement upward and outward is only moderately limited. On the temporal side of each upper orbital margin, the eyelid is pushed forward by a growth, which feels to the touch tough and resistant, and appears to have its origin within the orbit between eyeball and upper orbital wall. The anterior portion of this is hard, rounded, nowhere sensitive to the touch, and both from position and shape is clearly the lachrymal gland. The tumor of the right side is somewhat larger than that of the other, and the entire tarso-orbital fascia seems to be pulled down by the lachrymal glands.

Patient can voluntarily, but slightly, raise the upper lid from the position depicted in the woodcut; when the lid is raised for him but slightly, the lower portion of the lachrymal gland, firm, tense, and well marked, can be seen on its inner surface.

In the refracting media of the eyes no change can be seen, and the same is true of the retina and optic nerve and the intra-ocular circulation, but the vision is reduced to $\frac{20}{LXX}$ in the right eye and $\frac{20}{L}$ in the left.

This amblyopia is doubtless due to the pressure exerted upon the eye and its appendages by the dislocated and hypertrophied lachrymal glands.

Patient's color is bad—pale, ashy. On each side of the neck are large cervical glands; in both axillæ and in both groins are glandular enlargements; those of groin of the size of hens' eggs at least, and firm and resistant. So on each elbow above the olecranon are glandular hypertrophies, and the post-aural glands are very much enlarged.

MEDICAL PROGRESS.

Modification of Esmarch's Bloodless Method. —Dr. J. Szydlowski proposes the substitution of a simple elastic rubber tube for the band and tube in Esmarch's method. The tube is to be tied in the form

of a ring of a size suitable to the limb on which it is to be applied, passed over the hand or foot, and then gradually rolled up the limb, so compressing the vessels and preventing access of blood to the part, and driving out the blood already present; it is then to be allowed to remain and act as a tourniquet.—*Med. Chirurg. Centralblatt*, November 3, 1882.

THE PHYSICAL SIGNS OF PLEURITIC EFFUSION.—DR. R. DOUGLAS POWELL concludes a lecture on the physical conditions produced by pleuritic effusion as follows:

1. That until the pleura (previously under healthy conditions) is about two-thirds full of fluid, no positive pressure is exercised upon lungs or heart.

2. Up to this point, therefore, there is no tendency for the fluid to escape on puncturing the chest unless air be allowed to replace it. Its removal, otherwise, can only be effected by aspiratory or siphon power.

3. It is only in effusions beyond this point, therefore, that the diaphragm becomes depressed.

4. On the other hand, the heart is necessarily displaced from the very commencement of the effusion, and in proportion to its extent; cardiac displacement being thus a valuable index of effusion, but no measure of intra-thoracic pressure.—*Medical Times and Gazette*, November 18, 1882.

HEMORRHAGE INTO THE CAVITY OF THE ARACHNOID.—In a clinical lecture on this subject, MR. HENRY MORRIS, surgeon to the Middlesex Hospital, points out, as illustrated in a case:

1. That spontaneous effusions into the cavity of the arachnoid—*i. e.*, effusions of blood from disease or excitement—are very often not distinguishable from traumatic effusions. 2. That *post-mortem* examination does not always explain the cause or the source of the effusion, and that the state of the blood-clot is only a very rough test as to the age of the effusion. 3. Extravasation of blood between the dura mater and bone, as also extravasations beneath the visceral arachnoid, accompanied by brain bruising, are almost certainly traumatic, whether fracture coexists or not. Extravasations into the substance of the brain and into the ventricles are almost certainly spontaneous when no fracture and no brain bruising coexist, and are probably so even when fracture without bruising of the cerebral surface is found. 4. Spontaneous effusions may occur without there being any naked-eye evidence of disease of the cerebral or meningeal vessels. 5. Spontaneous effusions into the arachnoid cavity from disease or excitement have occurred as early as the twelfth year of life, and at all ages subsequent to puberty. Inter-arachnoid hemorrhage occurs at any age from violence. 6. In slight injuries to the head, such as small scalp wounds without fracture of the skull, or bruising of the surface of the brain, the surgeon should be extremely cautious in attributing inter-arachnoid extravasation to a blow, and more especially when, as in the case alluded to, the injured person is of intemperate habits.—*Lancet*, Nov. 11, 1882.

MENSTRUATION AND PSEUDO-MENSTRUATION IN DIFFERENT FORMS OF TYPHOID.—DR. E. BARRET, of St. Petersburgh, has studied, in a long series of cases, the influence of various forms of typhoid on the phenomena of menstruation, and formulates his conclusions as follows:

1. The influence of typhoid fever on menstruation will depend upon the time elapsing between the onset of the disease and the menstrual period.

2. When the menstrual period falls within the first five days of the disease, the appearance of the menstrual flow may be confidently expected: it occurred in 100 per cent. of his cases. If it is expected between the sixth and fourteenth days of the disease, it will occur in about 65 per cent. When expected after the fourteenth day, menstruation never appears.

3. The menstrual flow is suppressed more frequently in abdominal typhus than in other forms of the typhoid condition.

4. When present, the character of the menstrual flow is rarely altered in abdominal typhus: in spotted typhus (flecktyphus) it is usually diminished in quantity, and in relapsing typhus it is increased in amount.

5. The second and third menstrual periods rarely occur in any form of typhus.

6. Pseudo-menstruation, or a non-menstrual genital hemorrhage, rarely occurs; in spotted typhus it is a little more common, though it never appears before the age of puberty, or after the menopause.—*Deutsches Arch. f. klin. Med.*, November 8, 1882.

CROUP IN HOLLAND.—In the *Nederlandsch Tijdschrift voor Geneeskunde* for the present year, Dr. J. Korteweg contributes a long and laborious article on Croup in Holland. After a slight reference to the works of Bretonneau, Guersant, and Trousseau, he quotes the experience of various Dutch physicians in connection with the operation of tracheotomy, which, although very unsuccessful at first, is at present a measure of acknowledged utility in Holland, the fatal results in many cases being now attributed to the fact that the operation was not performed early enough. Unfortunately for the interests of medical science, Dr. Korteweg comprises under the head of "croup" both diphtheria and laryngitis, and, indeed, he appears to consider the former only an aggravated stage of the latter. Although he gives copious tables of death statistics from Amsterdam and many other Dutch localities, in which croup and diphtheria are classed in different columns, he adduces no evidence whatever to show why a distinction between them should be drawn. He insists very strongly on the influence of weather in the production of croup, and gives statistical tables showing the prevalence of the disease in the cold months of the year. It is evident, however, that the complaint he thus refers to is the ordinary laryngitis of children, which occurs in all countries and at all times, but more especially in cold weather. Diphtheria, on the other hand, is an exceptional disease, capricious in its visitations, occurring at intervals with great violence, attended with fearful mortality, often assuming an epidemic form, eminently infectious and contagious, but uninfluenced, as it would appear, by weather, or locality, or other ordinarily recognizable causes. From the want of this distinction the Dutch statistics regarding croup are of very little value, except as showing that during an epidemic of diphtheria the returns under the head of "croup" are very much augmented. The same want of distinction between common croup (*i. e.*, infantile laryngitis) and laryngeal diphtheria invalidates all the observations made as to the necessity of tracheotomy and the results of that operation in the maladies in question, for while in the former the operation is almost always successful and generally unnecessary, in the latter, though urgently required, it is too often attended with failure even in the most skilful hands.—*Med. Times and Gaz.*, Nov. 11, 1882.

TREATMENT OF HYDATID CYSTS OF THE LIVER.—M. TERRILLON writes that puncture and exhaustion of hydatid cysts of the liver is totally inefficacious in producing a cure, even when aspiration is not prevented by the clogging of the instrument with the debris of the hydatids. Electrolysis is also of very doubtful value, and free incision of the cysts even with antiseptic precautions should only be accepted

with hesitation. There only remain two methods: one, that of Recamier, of which the method of Trousseau is only a modification, consists in forming adhesions between the abdominal and cystic walls, and then subsequent evacuation of the contents of the cyst. The other is a modification, which M. Terrillon himself suggests, of the plan pursued by Boinet and Verneuil. This consists in the introduction of a trocar of one centimetre in diameter, directly into the cyst without waiting for any adhesions to form; an elastic sound is then passed into the cyst through the opening of the trocar, which is then withdrawn, leaving the sound in place. When the entrance of the fluid into the peritoneal cavity is feared, the trocar may be left in position for three or four days so as to allow adhesions to take place before introducing the sound. The author has treated four cases successfully in this manner.—*Journ. de Méd. de Paris*, November 18, 1882.

Intraorbital Aneurism.—Mr. Walter E. Lloyd reports the case of a traumatic intraorbital aneurism occurring in a pregnant woman, in whom the carotid artery was ligated one week after delivery. The wound healed well, but no change was produced in the aneurism; the eyeball was subsequently successfully extirpated.—*Lancet*, November 11, 1882.

Hemichorea after Lightning-stroke.—Greidenberg records (*Vratch*, 1882, Nos. 10 and 11) an interesting case where a telegraph clerk—a woman, aged 38—was struck by lightning on her left hand when she was engaged in closing the circuit during a thunderstorm. Having recovered from the shock, the patient found a small burnt spot on her left little finger, but felt no pain. Within a fortnight after the accident, constant movements in her fingers developed, which, some months later, spread over the whole upper limb, and, still later, over the whole left half of the body. Dr. Greidenberg, who saw the patient eight months after the accident, recognized a typical case of hemichorea, the movements being most intense in the upper limb, which was considerably wasted, and showed considerable loss of muscular power. The treatment consisted of daily galvanization, one pole being applied first to the spine, afterwards to the median nerve; another to the left brachial plexus. After five sittings of ten minutes' duration, and with the current from twenty elements, there began a decided improvement, which proceeded without interruption. After fourteen sittings the movements continued in the fingers only, and very soon the patient recovered so far as to be able to work with both hands, to embroider, etc. About three months later she returned to her professional occupation. The only traces left of the hemichorea were extremely slight motions in the fingers, controlled by the patient's voluntary efforts; slight tremor of the limb when raised; and, lastly, the burnt spot on the little finger, which had not healed, though more than a year had elapsed. —*London Medical Record*, Nov. 15, 1882.

Iodoform in Ocular Diseases.—As a contribution to the subject of iodoformania, to which we have frequently alluded, we append the following conflicting experience, taken from the *Wiener Med. Woch.* (No. 41). Iodoform, as finely powdered as calomel, and also in the form of an ointment (one part of iodoform to ten of vaseline), has been used in Leber's clinic. The healthy conjunctiva tolerates both the ointment and powder. An eye that is slightly inflamed only endures the preparations in moderate quantity, whilst free application increases inflammation. Some eyes cannot stand iodoform at all, though this is rare. Iodoform is used with the greatest benefit in recent wounds of the globe or lids, whether accidental or from operation. In the various forms of ophthalmia it is valueless. In association with boracic lint dressing the preparation does good in cases of spreading ulceration of the cornea. Another benefit conferred by iodoform is relief from pain. Grossmann got good results from the use of iodoform only in profuse suppurations—in gonorrhœal ophthalmia and ophthalmia neonatorum (P. Smith confirms this observation). Dr. Lange, of St. Petersburg, on the contrary, treated six cases with no good, but rather harm. The chief danger resulted in cases of granular lids, which became much more exuberant, and, filling up the conjunctival sac, endangered the nutrition of the cornea. Lange cautions against its use in ophthalmia neonatorum, and Hirschberg teaches that there is no reason whatever to set aside the use of the trustworthy lapis divinus. Fischer believes that iodoform is tolerated well in most ocular diseases; it is very effectual in cases of scrofulous corneæ; it is an excellent antiseptic; it promotes granulation and rapid regeneration of corneal epithelium; it is of value in lachrymal abscess with discharge.—*Medical Times and Gazette*, November 18, 1882.

Cystic Tumor due to a Hair which had Penetrated the Eyeball.—At the meeting of the Baltimore Academy of Medicine held Nov. 7, 1882, Dr. J. J. Chisolm reported a rare case of cystic tumor of the iris occurring in a child four years of age. Nine months since he was accidentally struck in the left eye by a piece of wire from a hoopskirt. It cut the cornea on the nasal side, leaving a cicatrix extending from the pupillary border to the inner corneal margin—not passing over into the sclera. The iris was adherent to the corneal wound, leaving the pupil free, however, and sight was not destroyed. Three months since, and six months from the receipt of the accident, a minute yellow spot was detected in the centre of the temporal side of the iris, midway between the pupillary border and the corneal margin. It caused no pain, and did not inject the eye. For three months its slow growth had been watched till it attained the size of a millet seed. It was considered a dangerous development, needing a special interference. The patient was brought to him for the removal of the growth. Under chloroform an iridectomy was successfully performed, removing the entire tumor with a margin of healthy iris. When the specimen was held up in the iridectomy forceps for inspection, much surprise was occasioned by finding a hair sticking directly out of the growth, and which was apparently the cause of the new development. This hair had no hair-bulb, and had not grown, therefore, in the eye, but had evidently been carried in from without at the time of the accident. It was a transplantation into the iris from which, by long-continued irritation, the growth had developed. In at least 30,000 eye patients which Dr. Chisolm has from time to time had under treatment, this was the first iritic tumor that he had met with in his practice. The child did well from the operation.—*Maryland Medical Journal*, December 1, 1882.

Xanthoma Tuberosum.—At the meeting of the Pathological Society of London, held on November 7th, Mr. Malcolm Morris showed a living specimen of a very rare skin disease which he called xanthoma tuberosum. The patient was a married man, aged forty-eight, who was suffering from saccharine diabetes. There was no history of syphilis or rheumatism; no jaundice or evidence of disease of the liver. He complained of sleeping badly, and of dimness of sight with occasional mists before his eyes. There was distinct anæsthesia of the soles. Heart weak; reflexes normal. The eruption appeared suddenly, first on the outer side of the thigh, then spreading to the trunk, to between

the fingers, and on the mucous membrane of the mouth. It consisted of small, rounded, firm, pink tubercles, with depressd centres which had more of a fawn-color in the centre. Many of the papules had disappeared since the case first come under his care. With the patient's consent he removed one of the growths and examined it microscopically. This showed small nodules in the corium, with a delicate fibrous intercellular matrix; towards the centre the fibrous tissue became more compact and firm. The superficial epithelial cells were normal. There was no connection with any glandular structures, and the older papules contained no bloodvessels. In one place he found a collection of round cells about a vessel, and he suggested whether this might not be the real origin of the growths—the tissue ultimately contracting and so causing degeneration of the cells. This case differed from those of xanthelasma in many respects, chiefly in its association with diabetes and not with jaundice; the sudden onset of the rash, and its rather rapid disappearance, and in the fact that the eyelids were not implicated. But on the other hand it closely resembled two cases, one of which had been recorded by Drs. Gull and Addison, the other by Dr. Bristowe. The three cases were all in men; they all had diabetes, they all affected the same locality and avoided the same parts; in all the rash appeared suddenly, and gradually, but rather rapidly disappeared. To these exceedingly rare cases the name of xanthoma tuberosum had been applied.—*Lancet*, November 11, 1882.

PERFORATION OF ARTERIES IN PURULENT COLLECTIONS.—At the meeting of the Société de Chirurgie, of Paris, held November 8, 1882, M. MONOD made a report on a communication of M. Bouilly in reference to the perforation of arteries in purulent collections. A man suffering from osteo-myelitis of the femur had a collection of pus in the lower part of the thigh; its incision showed that the popliteal vessels were laid bare in the cavity of the abscess. Carbolized dressings were applied; two weeks later hemorrhage occurred, which was controlled by pressure and subsequent ligation of the femoral artery. Two days later the patient was found dead in his bed. The autopsy revealed a perforation in the popliteal artery, evidently caused by ulceration from the generally reduced condition of the system.—*Gaz. Hebdomadaire*, Nov. 7, 1882.

A NEW DISEASE OF THE LYMPHATICS.—At the meeting of the Pathological Society of London held Nov. 21st, DR. GEORGE HOGGAN exhibited a number of microscopical specimens of a condition of the lymphatics of the skin, which he had not seen described, and which he believed was related to elephantiasis and angioma; it most nearly resembled a disease described by Kaposi as *lymphangioma tuberosum multiplex;* but he was doubtful whether that was a disease of the lymphatic system at all. The specimens were made from a portion of skin excised from a young boy, who had been a patient of Dr. T. Colcott Fox; they showed a very great increase in the number of the lymphatics, without any other abnormality. To the naked eye, the skin showed a number of small vesicular bodies, about the size of a split pea, which could be distended by passing the hand over the leg against the current of the lymph. The boy had suffered from severe attacks of pain in the legs; and, after each attack, the skin of the leg became more and more thickened and enlarged. The whole of the dermic tissue was penetrated in every direction by the enlarged lymphatics. Dr. Hoggan thought the case probably showed an early stage of a condition which would ultimately result in elephantiasis.—Dr. Pye-Smith inquired whether the condition was congenital.—Dr. Thin complimented Dr. Hoggan on the excellence of his preparations. He was not prepared to accept the suggestion that this case represented an early stage of elephantiasis, which he believed was due to organization of imperfect fibrous tissue about the lymphatic vessels, and not, as here, to an increase in the number of the vessels.—Dr. Hoggan could not say whether the condition was congenital or not. In the main, he agreed with what Dr. Thin had said.—*British Medical Journal*, November 25, 1882.

LIGATURE OF THE COMMON CAROTID.—At the meeting of the Society of Physicians in Vienna on October 20, Prof. Weinlicher showed a man, aged fifty years, on whom he had successfully tied the left common carotid artery for bleeding into an abscess in the left tonsil. The abscess was the result of repeated injections of an ethereal solution of iodoform into a spindle-celled sarcoma, which had grown in the tonsil and neighboring lymphatic glands. Sixteen injections had been made into the new growth from the mouth and fourteen from the neck. The solution used was of the strength of one part of iodoform to ten of ether; of this two to three minims were employed each time. This method of treating the sarcoma was practised because the patient had determined that no operation for extirpation should be performed. This case is of interest when taken side by side with a somewhat similar one reported at a recent meeting of the Clinical Society of London, in which Mr. Pepper secured the common carotid for hemorrhage into an abscess in the throat, the result of scarlatina. The Vienna patient also recovered completely from the operation. It is not stated whether antiseptic dressings were employed. It would appear that the use of antiseptics is a point of great importance in bringing about a successful result, the liability to secondary wound diseases, especially profuse suppuration, and to secondary hemorrhage being greatly lessened.—*Medical Times and Gazette*, November 18, 1882.

A NEW STAINING FLUID FOR SECTIONS OF THE CENTRAL NERVOUS SYSTEM.—PROF. WEIGERT, of Leipzig, proposes the following plan of staining sections of the central nervous system after hardening in bichromate of potassium: The sections are first stained for several hours in a concentrated watery solution of acid fuchsin, then washed in water, and then placed for a few seconds in a solution of alcohol rendered alkaline by adding to 100 c.c. of absolute alcohol 10 c.c. of a one per cent alcoholic solution of caustic potash. As soon as the first signs of the gray nerve-tissue becomes evident the sections must be removed from this fluid, washed in water, and then placed in absolute alcohol saturated with chloride of sodium; they are then cleared with oil of cloves, and mounted in balsam. By this method of staining the medullated nerve-fibres of the medulla, pons, and cord stand out as brilliant red lines or points, from a partial staining of the medullary sheath; the ganglion cells and connective tissue stain blue, the shade being deepened by immersion in dilute hydrochloric acid, one to five, and then into water, before placing in alcohol.—*Centralb. f. d. Med. Wissen.*, October 21 and 28, 1882.

WARM WATER IN JAUNDICE.—MOSLER has employed with success the injection of a large quantity of warm water into the large intestine in catarrhal jaundice. The experiments of Röhrig have shown that such injections have the effect of increasing, for a considerable time, the secretion of bile; and Peiper showed that the bile was thus rendered more diffluent. While the amount of water in the bile was increased, that of solid matter was lessened. About six hours after the injection, the solids rise above the normal, and the water falls below it.—*Lancet*, November 25, 1882.

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SHORT-WEIGHT QUININE PILLS.

IT is scarcely necessary to call attention to the results, as presented in this number of THE NEWS, of the analyses made of the quinine pills manufactured by the leading pharmaceutists of the country. Nothing is more important to the physician and his patients than accuracy in the preparation of the medicines which he prescribes, and so large a portion of the remedies most in vogue are now put up on a large scale in the form of granules and pills, and furnished in a shape ready for dispensing, that it becomes a matter of the utmost moment to the public that the profession shall be justified in placing confidence in the purity and accuracy of the remedies on which the welfare of a confiding community depends. In pursuance of its mission to neglect nothing which bears upon the interest of the profession, THE MEDICAL NEWS has undertaken to examine the important article of quinine pills, as furnished by a number of the leading houses of the country. Every precaution has been observed to preserve the strictest impartiality and to obtain the most perfect accuracy as to results. The analyst is one of our most distinguished experts, and the arrangements were such that he could have no knowledge of the source from which the several specimens were obtained. We believe, therefore, that the results which we publish to-day may be implicitly relied upon.

Those results are by no means pleasant to contemplate. While it is a satisfaction to find that all the several samples of quinine pills were free from adulteration, that satisfaction is greatly diminished by the fact that all the samples but two were found to be sensibly deficient in quantity, the deficiency ranging from five to about twenty per cent. If this deficiency is constant, as our examination would seem to render probable, we have here a wrong committed upon the public, against which it is the duty of the profession, as the guardians of the public health, to record its emphatic protest.

It is to be hoped that this carelessness—to use no stronger term of reprobation—does not obtain throughout the whole of the extensive list of drugs which are now thrown upon the market so plentifully in a finished state. That giving short weight is not necessary to the successful conduct of pharmaceutical manufacturing is evident from our tabulated results, which show that the houses giving the best measure are not among the least successful in the competition of trade.

SHOULD NOT THE OFFICE OF CORONER BE ABOLISHED?

IN England the office of coroner has existed for a thousand years. In France, Germany, and indeed generally on the continent of Europe, there never has been any coroner. The last statement disposes practically of at least one doubt that instantly arises in the conservative mind on asking our question. Because the coroner is an outgrowth of a mouldy past is no reason that he should flourish to-day. If he does not fulfil his purpose, he should be abolished. Let us then look squarely at the facts.

And, for example, what is the condition of the law in this State? Curiously enough in Pennsylvania and in Louisiana, there never has been any formal repeal of the old English law on this subject, so that it is binding upon us, except where it has been altered by specific statutes. We have carefully looked into the laws relating to the coroner in this State, as recorded in Dr. J. G. Lee's *Handbook for Coroners*, and we find plenty of law as to the election of the coroner, his bond, commission, dereliction, or neglect of duty, etc., but not a word as to what his duty is, except as to the coroner of the City of Philadelphia, which law we quoted in our issue for November 25th. How he is to discover his duties from existing legal provisions we can scarcely see. In Luzerne county he is directed *not* to hold an inquest except in cases of violence or suspicion, and in Philadelphia not to hold an inquest on prisoners except in certain cases. What his duties *are* he must learn from custom, common report, and old English law. His jury is fixed at six; but no law requires him to take charge of money or effects found on the persons of those on whom inquests are held. Nor do we believe that even in Philadelphia can he legally hold an inquest on the body of any infant the victim of an abortion, provided the infant was still-born. The law says he shall hold an inquest "on the body of any deceased person, etc."

Now in the *Boston Medical and Surgical Journal*, Vol. CIII. page 200, Dr. Holt examines most carefully the meaning of the words "dead body of a person," and reaches the conclusion that a fœtus only becomes a "person" after birth, and that birth is the extrusion of the entire body from the mother. If, then, a child dies, even after having breathed, but before complete extrusion from the mother, it never has become a "person," and so cannot be the subject of an inquest. How serious a defect this is in the law, the frequent practice of abortion shows only too well.

Provision was made in 1848, for *post-mortem* examinations in Berks and Luzerne counties, and down to 1867 the provision was from time to time extended to only five other counties in the State, while meantime in 1856, it had been repealed as to Berks county itself. In six counties from the year 1852 to 1871, the coroner was authorized to appoint any number of deputies he might see proper. In Philadelphia, one of the six, he has this right, and he might if he choose appoint several deputies at a salary of $2,500 each.

The salaries both of the coroner and of the deputies are paid out of the fees, and if the fees do not amount to the salary it is curtailed accordingly. What a sore temptation this is to multiply inquests unnecessarily! And we showed in our issue before alluded to that it was a temptation frequently yielded to. Many such inquests have been held, and they not only *make* the fees of the coroner amount to the sum fixed by law, but they put the county to unnecessary expense for jury fees, witness fees, hauling of bodies, *post-mortems*, etc. Thus the law is shown not only to be uncertain and loose, but inadequate in its provisions, variable in different counties in the State, and of such a character as to be a direct invitation and inducement to wrong.

Next, as to the qualifications of the coroner himself, our present system is an absurd relic of the past. At one time he was not only coroner, but a conservator of the peace, a prosecutor of crimes, a sheriff's lieutenant, an inspector of weights and measures, and a revenue officer of the crown. Now he is only a coroner, and in certain cases interchanges duties with the sheriff, either officer in case of incapacity or death of the other acting as his substitute. But as coroner alone he has double and really incompatible functions. He has to be both a skilful physician and an expert lawyer, familiar with the anatomical and pathological appearances indicating death in all its multifarious phases—by drowning, by abortion, by compression of the brain, by disease of the heart, by sunstroke, by poisons of all sorts, by alcohol, by consumption, by gunshot wounds, by compound fractures, by blood-poisoning, by asphyxia, by accidents of all kinds, and we must even add an "etc." And with all this he must know the law from beginning to end, the old English common law as a guide to what his legal duties are, the later statute law of both the mother country and of this State to know how his duties may have been limited or enlarged, the laws pertaining to murder, manslaughter, self-defence, responsibility for accident, commitment and detention of criminals, besides other endless details of which we ourselves are ignorant.

We doctors can readily imagine what a mess a lawyer would make of an autopsy, or of a medical diagnosis, and a lawyer can readily see how a doctor would come to grief in the management of a case at law. We can readily see then that the poor coroner who must be both, is almost certain of impalement on either one horn of the dilemma, or often on both. If a doctor, the legal horn is pretty sure to gore him; if a lawyer, the medical horn wounds; if neither doctor nor lawyer, ten to one he will be tossed by both. Medical knowledge is more requisite than legal, and hence, as Mr. Wakley so pertinaciously and so successfully urged in the *Lancet* a half century ago, the coroner under present regulations should be a doctor rather than anything else, but even this is only the least of several evils, as we have shown. Even when the coroner has been a physician, the deputy, who generally does more than half the work, has never been a medical man.

Of the practical workings of the present system and of the remedy, we shall have something to say hereafter.

"PNEUMO-URIA."

IN another column we give a very interesting paper and discussion on Pneumo-uria, that is, a discharge of gas along with the urine. DR. KEYES has rendered an important service in recording two cases of such rarity that neither he nor Dr. Van Buren has seen any other within the last fourteen years, and of which he has only found two recorded cases. In the discussion four or five other cases are added to the list, but it is to be especially noted that these were all from decomposition of the blood-clots of hæmaturia. Dr. Keyes' cases are of a different class. They are not from vesico-intestinal fistulæ; they are not from decomposition of the urine, for they coexist usually with clear, sweet, normal urine. Sometimes the urine may be putrid when sulphuretted hydrogen is found in addition to the ordinary gas, but a little of such ill-smelling gas goes a long way. Indeed, we suspect that much of it would be dangerous to life.

In women, Matthews Duncan speaks of such an escape of air from the bladder as nothing unusual,

but attributes it, as does Goschler, to its previous admission by the catheter. Marie (*L'Union Médicale*, 1865, p. 55) also relates a very interesting (and amusingly told) case in which prolonged "vesical sonorities" accompanied dysuria. On passing a catheter, he was so fortunate as to open freely an old abscess which had been the source of the gas. The operation was followed by complete and speedy recovery.

We see frequently that liquids in other closed cavities undergo decomposition with the production of gas, as in abscess-cavities, in the pleura, and even in the arachnoid. Morgagni also mentions one case in which the gall-bladder was empty of bile, but distended with air. But in these cases, as a rule, the gas is offensive, as is natural from its origin by decomposition. The source of an inodorous gas found in the bladder is very doubtful. In cases in which the catheter is in constant and frequent use, it is most likely from without. Air so introduced may remain for a considerable time without absorption, and from time to time a part of it may be expelled with the urine. Whether air can also be secreted by the bladder is a question as yet unsolved. Certainly, Mallez is wrong in saying its escape is "not uncommon." We hope that the publication of this paper will call attention to the subject and elicit other cases from neglected records.

THE INFLUENCE OF THE SPLEEN ON DIGESTION.

TWENTY years ago, Schiff claimed that extirpation of the spleen in dogs entirely destroyed the normal function of the pancreatic juice of digesting albuminoids; but neither his theories nor the data on which they were based have been accepted as conclusive or reliable. The discovery by Heidenhain in the granular contents of the pancreatic cells of *zymogen*, as the substance which is converted into trypsine, the proteolytic ferment of the pancreatic juice, seemed to further justify the denial of any exterior influence to the digestion of proteids by the pancreas.

HERZEN, in a recent communication to the *Revue Scientifique* for November 25, has again opened the question and reports some experiments which seem to support the views first advanced by Schiff, and which he also advocated in a paper published in 1877. He claims that while zymogen is being continually formed, even in animals deprived of the spleen, it is never (though this statement has been denied by Mosler) converted into trypsine after extirpation of the spleen, and its conversion into trypsine is proportional to the degree of splenic dilatation. It is accordingly claimed that the spleen in the dilatation to which it is subject during gastric digestion, elaborates a ferment which is conveyed to the pancreas and converts the zymogen into trypsine, and that the presence of this ferment, at least in the living pancreas, is a *sine quâ non* for the transformation of zymogen into trypsine, though out of the body such metamorphosis may occur from mere oxidation.

To put this view to the test of experiment, Herzen killed two dogs, one in full digestion, the other after having fasted twenty hours; an infusion in a five per cent. solution of boric acid was then made of the spleen of the digesting and of the pancreas of the fasting dog; either solution alone was incapable of digesting albumen, but a mixture of the two possessed active digestive powers, while a mixture of splenic and pancreatic infusions of the fasting dog was entirely inactive. Although these experiments are not reported in detail, they certainly seem to indicate some connection between the spleen and the pancreatic digestion of albuminoids. We must confess that—although we know of no experimental support for the statement—the known readiness with which zymogen is converted into trypsine in the presence of a dilute acid, suggests the possibility of its conversion during life into trypsine in the presence of an acid formed in the pancreatic cell under circumstances similar to what occurs in the muscle cell during its functional activity.

THE NEW YORK COUNTY SOCIETIES AND THE NEW CODE.

THE very proper action of the thirty-four New York county societies which have already instructed their delegates to the next State Medical Society meeting, to vote for the repeal of the New Code, seems to foreshadow its fate with almost certainty. This appears, however, to have worked the *Medical Record*—the apostle of the New Code—into a rather unamiable mood, and in apparent despair it calls the delegates ugly names, and, likening them to dogs, says that they go to the "annual gathering with collars about their neck, engraven with their master's stamp."

Delegates are appointed to represent constituents, and when constituents have decided views on a subject they are quite right in making them known. But the advocates of the new Code do not want to learn professional sentiment. Had they, they would have last year adopted Dr. Squibb's honorable motion to postpone action on the Code until the next meeting, so that it could be ascertained. Then *they* had the meeting "fixed," and they would not postpone action for even a day, but they rushed through their revolutionary Code on the first day of the meeting, and on the day on which it for the first time saw light.

It now remains to be seen if, after a thorough discussion of the subject, the advocates of the new

Code will gracefully yield to the declared will of a very large majority of the profession of their own State, and in deference to the sentiment of the whole profession of the rest of the United States, as formally expressed with absolute unanimity by the American Medical Association, and by the State medical societies from Maine to California.

The large delegation from the New York County Medical Society has been carefully selected by the originators and supporters of the new Code, and they are pledged to attend the annual meeting of the State Society, and to vote to sustain the new Code. At a slimly attended meeting like last year's, it would almost be within their power alone to prevent its repeal. It is therefore extremely important that all the county societies should be represented by full delegations, and that the permanent members should, as far as possible, be present at the ensuing meeting in February.

Whatever the final result may be, we hope the yeas and nays will be demanded, so that the profession of the State and of the country at large may know who of their honorable calling are so forgetful of the standard of professional morals as to be willing to consult with charlatans, and, by thus affiliating with them, to commend them to the respect and confidence of the community.

ESERINE AND ATROPINE.

RECENT observations in ophthalmic practice have confirmed, in a most notable and exact manner, the results of the experimental study of eserine and atropine. The antagonism of actions existing between these agents, is one of the most striking exhibitions of this principle in the whole series of physiological antagonisms. There is a notion abroad in the medical profession, that the demonstration of an antagonism in animals, cannot be applied to the same conditions in man; much less, can the knowledge thus obtained be utilized in the treatment of man's diseases. Besides the large amount of experimental and clinical evidence, to which we might call the attention of our readers, there were published in the issue of the *Lancet* for November 11, two cases of eye disease which perfectly illustrate the success with which the physiological study of eserine and atropine has been applied to therapeutical problems. In the first case, the condition of the eye was that of intermittent glaucoma, with increased intra-ocular pressure; in the second, there was recurrent iritis, with increased intra-ocular pressure. The myositic, eserine, a pupil contractor, relieved the former; the mydriatic, atropine, a pupil dilator, was successful in the latter. Notwithstanding the increased tension of the eyeball, in both cases, remedies acting oppositely succeeded; and not by haphazard empiricism, but by the accurate adaptation of scientific principles.

THE ONTARIO HEALTH BULLETIN.

THE weekly health bulletin issued by the Provincial Board of Health of Ontario is a sheet about the size of the daily weather chart of our signal office, and consists of an outline map of the province, which, for the purposes of the statistician, has been divided into ten districts. The bright colors with which these districts are overlaid are suggestive of an attempt to indicate the prevalence of disease by their means, but on closer examination it is found that they only serve the purpose of showing the divisions. The six diseases which have been most prevalent in each district during the week are printed in the order of prevalence on or near each division, while a graphic delineation of the comparative area of prevalence of each of the diseases which have figured as one of the first six in one or more of the districts is given in one corner, and a similar delineation, with an attached scale, enables the degree of prevalence of each disease to be compared. But the reader wants naturally to know on what data the official announcements are made. As a health bulletin, we are inclined to prefer Dr. Baker's statements of prevalence in Michigan, as observed by so many medical men in different parts of the State.

THE NEW PENAL CODE OF NEW YORK STATE.

ON December 1st, the New Penal Code of New York State went into operation. As two or three of its provisions affect the medical profession directly or indirectly, we call attention to them.

It behooves physicians in that State to be watchful of their habits and prescriptions, for it is provided that any physician who, while intoxicated or by mistake, gives any drug to his patient in such dose as to kill, is guilty of murder in the second degree.

"A person," says section 305, "has the right to direct the manner in which his body shall be disposed of after his death, and direct the manner in which any part of his body which becomes separated therefrom during his life-time shall be disposed of." Under such a law Dr. Weir Mitchell's soldier-hero, George Dedlow, could have claimed his legs from the Army Medical Museum.

It is made a crime to attach a dead body for debt or to obstruct or detain a funeral. Many other provisions seem to us to be excedingly wise. Duelling, cruelty to children and to animals, overloading of vessels with passengers, carelessness as to steam boilers, are all made punishable; the care and preservation of life, generally, is provided for most commendably.

We observe also that the law as to the responsibility of the insane, idiotic, and imbecile, requires that it must be proved that he was laboring under such a defect of reason as either not to know the nature and quality of the act he was doing, or not to know that the act was wrong. A morbid propensity to commit prohibited acts existing in the mind of a person who is not shown to have been incapable of knowing the wrongfulness of such acts, forms no defence to the prosecution therefor. We wish the "New York Code" in medicine were equally as wise.

IN the *Philadelphia Inquirer* of December 5 is a statement the like of which we never remember to have seen before. Twenty cases had been reported to the Coroner on the preceding day, of which *eight were referred back to the physicians as unsuitable cases for inquests*. We hardly expected that our editorial defining the relations of physicians and the Coroner, published a few days before, would bear such speedy and such abundant fruit. Moreover, we congratulate the County and the Coroner on the resulting saving, which for that day alone would be not far from one hundred dollars—a very fair gain for one day.

SPECIAL ARTICLE.

THE MEDICAL NEWS COMMISSION

ON THE

COMPOSITION OF PHARMACEUTICAL PREPARATIONS.

QUININE PILLS.

IT is of the highest importance to the profession and to the public to know if the pharmaceutical preparations which are prescribed and purchased are what they are represented to be both in quality and quantity; for it is very evident to the most casual observer that neither temptation nor opportunity is lacking to those who may be willing to adulterate their preparations and dispense them in short measure.

Of all the drugs in the Pharmacopœia, quinine is probably one of the most largely used and at the same time one of the most expensive. As there is an immense demand for it everywhere, and as there are considerable difficulties in the way of both physicians and patients ascertaining the precise amount of quinine in a pill, owing to the presence of excipients and coatings, and equally great difficulties in the way of detecting adulterations, it is readily seen that the manufacture of quinine pills offers a most attractive field to any pharmaceutist who is disposed to take advantage of his opportunities.

The leading manufacturing pharmaceutists have for some years found it profitable to make for the trade, on a very large scale, the pills which are in common use, and the retail apothecaries, as a rule, keep these pills in stock and dispense them as a matter of convenience, and because they can be sold at a lower price than those which are made on a small scale by hand.

With the view of ascertaining how well the public is served by the leading manufacturing pharmaceutists THE MEDICAL NEWS instituted an investigation as to the purity and weight of the pills made by them, and two-grain sulphate of quinine pills were, for obvious reasons, selected for the test.

In the middle of October, THE MEDICAL NEWS purchased in unbroken packages from seven of the largest manufacturers, or from their agents, bottles, each containing by actual count, 100 two-grain sulphate of quinine pills. The pills were then put in new bottles, numbered respectively 1, 2, 3, 4, 5, 6, and 7, and placed in the hands of an expert analytical chemist, to ascertain the amount of the alkaloid contained in each pill and its purity, without his having any knowledge, indication, or clue as to who were the manufacturers of the different specimens. To eliminate all possible errors, a second series of analyses, and, where these showed any discrepancies, a third series were made under the above conditions, the numbers, however, being varied in each series, for evident reasons.

METHOD OF ANALYSIS.

The analysis was conducted by the following method: 20 pills were dissolved in distilled water, by the aid of a little dilute sulphuric acid, and, in the case of the sugar-coated pills, the solution filtered, in order to remove starchy matter, etc., and the filter thoroughly washed with water. The resulting solution was then super-saturated with ammonia water, and the precipitated alkaloid dissolved by agitation with successive portions of pure ether until, after the separation of the ether, the remaining aqueous liquid no longer gave any reaction for an alkaloid with potassio-mercuric iodide; thus affording evidence of its complete abstraction. The ethereal solution was first allowed to evaporate spontaneously in a weighed glass capsule, then dried at 100° C. (212° Fah.), and finally dried at 125° C. (257° Fah.), until the weight remained constant.

Seven specimens of pills were thus examined, with the following results.

SERIES I.

No. I. (compressed). Two-grain bisulphate of quinine pills. Average weight of each pill, 2.07 grains. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill 1.24 grains; corresponding to crystallized bisulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *2.10 grains*.[1]

No. II. (gelatine-coated). Two-grain sulphate of quinine pills. Average weight of each pill, including coating, 3.48 grains. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.31 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.76 grain.*

[1] The small excess of quinine obtained in this instance is doubtless due to the employment of a slightly effloresced salt.

No. III. (sugar-coated). Two-grain sulphate of quinine pills. Average weight of each pill, including coating, 5.14 grains. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.48 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.99 grain.*

No. IV. (sugar-coated). Two-grain sulphate of quinine pills. Average weight of each pill, including coating, 4.69 grains. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.199 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.61 grain.*

No. V. (sugar-coated). Two-grain sulphate of quinine pills. Average weight of each pill, including coating, 5.16 grains. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.323 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.78 grain.*

No. VI. (sugar-coated). Two-grain sulphate of quinine pills. Average weight of each pill, including coating, 4.34 grains. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.269 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.71 grain.*

No. VII. (gelatine-coated). Two-grain sulphate of quinine pills. Average weight of each pill, including coating, 3.05 grains. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.42 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.91 grain.*

All the specimens were found to be free from the associate alkaloids of quinine, viz., quinidine, cinchonine, and cinchonidine, and to respond to the official tests of sulphate of quinine for identity and purity.

Owing to the deficiency in weight of five of the above examined specimens, a second analysis was made of newly purchased samples, which were similarly numbered 1, 2, 3, 4, and 5; the numbers, however, not corresponding to those attached to the first set of specimens submitted. The analysis was performed in the manner above described, and afforded the following results:

SERIES II.

No. I. (sugar-coated). Two-grain sulphate of quinine pills. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.39 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.87 grain.*

No. II. (sugar-coated). Two-grain sulphate of quinine pills. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.26 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.70 grain.*

No. III. (gelatine-coated). Two-grain sulphate of quinine pills. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.424 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.91 grain.*

No. IV. (sugar-coated). Two-grain sulphate of quinine pills. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.318 grain; corresponding to crystallized sulphate of quinine $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.77 grain.*

No. V. (gelatine-coated). Two-grain sulphate of quinine pills. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.308 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.76 grain.*

SERIES III.

No. I. (sugar-coated). Two-grain sulphate of quinine pills. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.26 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.70 grain.*

No. II. (sugar-coated). Two-grain sulphate of quinine pills. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.42 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.92 grain.*

TABULAR STATEMENT OF THE RESULTS.

For convenience of comparison the results are arranged in tabular form.

Manufacturer.	Series I.		Series II.		Series III.	
	No.	Grs.	No.	Grs.	No.	Grs.
John Wyeth & Bro., Philadelphia.	I.	2.10				
McKesson & Robbins, New York.	II.	1.76	V.	1.76		
Bullock & Crenshaw, Philadelphia.	III.	1.99				
Wm. R. Warner & Co., Philadelphia.	IV.	1.61	II.	1.70	I.	1.70
Parke, Davis & Co., Detroit.	V.	1.78	IV.	1.77		
Keasbey & Mattison, Philadelphia.	VI.	1.71	I.	1.87	I.	1.92
W. H. Schieffelin & Co., New York.	VII.	1.91	III.	1.91		

RELATION OF THE PRICE OF QUININE PILLS TO THE AMOUNT OF QUININE THEY CONTAIN.

As a matter of collateral interest, it is worth while to consider the varying price at which the two-grain pills are furnished, and the relation of the price to the amount of quinine they contain. This is shown in the accompanying table, in which are given the current retail prices which were paid by THE MEDICAL NEWS for the specimens purchased for the first series of analyses.

Manufacturer	Quinine per pill.	Price per 100.
John Wyeth & Bro.,	2.10 grains.	$ 2.50
Bullock & Crenshaw,	1.99 "	2.30
W. H. Schieffelin & Co.,	1.91 "	2.75
Parke, Davis & Co.,	1.78 "	1.70
McKesson & Robbins,	1.76 "	1.76
Keasbey & Mattison,	1.71 "	1.90
Wm. R. Warner & Co.,	1.61 "	2.75

The range we found to be from $1.70 (the lowest) to $2.75 (the highest) per hundred—a variation of 60 per cent.; and there is no constant relation between the price of the pills and the quantity of quinine they contain.

THE GENERAL RESULTS OF THIS INVESTIGATION.

From the foregoing facts we learn:

I. That the quinine pills of five out of seven of our leading manufacturers have not in them the amount of sulphate of quinine which they are represented to contain.

II. That there is a great variation in the price at which the pills can be purchased.

III. That the price bears no relation to the amount of quinine really contained in the pills.

REVIEWS.

ON SLIGHT AILMENTS: THEIR NATURE AND TREATMENT. By LIONEL S. BEALE, M.B., F.R.S. Second edition. 8vo. pp. 283. Philadelphia: P. Blakiston, Son & Co., 1882.

"What is here?
Gold! yellow, glittering, precious gold!"

COMMUNISM has sought to diffuse equally the material riches of the globe, but the sequel has always been a revolution. Apostles of mental communism reproduce the story so well told in Addison's *Spectator*, in which an equal distribution of the hardships and misfortunes among mankind resulted in a chaos of calamity, until Jove at last returned to each his share again.

The gold of the world of thought cannot be allotted by the ton to the multitude, and books like this we fear attempt an impossibility. The instincts of the born physician direct him, and he is an empiricist only in name. Let him impart his methods and his valued recipes sink to the level of the cook book, which the born cook puts into the hands of the amateur while she still uses her pinch of salt and lump of butter as large as an egg.

The gold of good ideas is in this book, but let us rather explain in such works as these the principles of morbid pathological processes, be they slight or gross. Let us seek to meet them by the physiological action of drugs, as far as possible, and when this fails, let us stimulate original thought in this direction, letting necessity suborn the empiric's art, and constituting her the hand-maid of science. For necessity is the mother of prudent invention. We are led to comment thus, because nothing essentially new appears in this second edition. Empiricism, or experience with ignorance, is extolled. Old-fashioned purgatives, emetics, acids, or antacids find favor. Dr. Beale is sanguine about the virtues of mercurials in the cure of headache (which he considers to be developed by biliousness), and in many other conditions for which our grandmothers were wont to advise blue pill.

The table of contents includes peculiarities of the tongue in slight ailments; offensive breath; nausea; indigestion, its nature and treatment; constipation, and its treatment; diarrhœa; vertigo; biliousness and sick headache; neuralgia and rheumatism; the feverish inflammatory state; the actual changes in fever and inflammation and common forms of slight inflammation, including sore-throat, conjunctivitis, etc. etc. The remedies suggested for these derangements, without being new, are correct, and those physicians who enter practice without hospital training, will doubtless find their time profitably spent in its perusal.

SOCIETY PROCEEDINGS.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, December 6, 1882.

THE PRESIDENT, W. S. W. RUSCHENBERGER, M.D., IN THE CHAIR.

DR. J. EWING MEARS read

A RÉSUMÉ OF TWENTY-FIVE CASES OF ABDOMINAL SECTION.

With a view of placing on record the results in a number of cases of abdominal section, and with the hope of contributing to the information possessed already with regard to these operations, I beg to submit the following *résumé* of the cases which have come under my care.

I have endeavored to present the points, which were regarded of interest, in a concise manner, for this purpose grouping them under different headings.

Of the twenty-five cases of abdominal section, twenty-two were performed for the removal of tumors of the ovary; one was made in a case of encysted dropsy of the peritoneum; one in a case of abdominal dropsy, in which the diagnosis was obscure, and an operation of exploration was made; and one for removal of the child in extra-uterine fœtation.

As the case of encysted dropsy has been reported to the College (See *Transactions*, 3d Series, Vol. I.), and as I propose, at a future time, to report the one of extra-uterine pregnancy, I shall present on this occasion a *résumé* of the ovarian cases.

Age of Patients.—In the twenty-two cases the age varied from the youngest, sixteen, to the oldest, sixty-five years.

Nationality.—Sixteen patients were natives of the United States, and six of Ireland.

Social Condition.—Five were single, one was a widow, and sixteen were married.

Duration of Growth.—The duration of growth varied from three months to seven years, counting from the time at which the tumor was recognized first by the patient.

Aspiration, or Previous Tapping.—Aspiration, for the purpose of obtaining a specimen of fluid for examination, was performed in eight cases; tapping, to relieve abdominal distention, in four. In one case, in which the cyst was very fully distended by fluid, and the abdominal wall was very tense, leakage followed aspiration, and persisted for some hours, despite the efforts made to control it by pressure. In none of the cases, in which aspiration or tapping was performed, did any serious results occur, nor were there any evidences in the operations, which followed, of complications due to the previous aspiration, or tapping. In all cases, proper precautions were taken, the patient being required to rest in bed from three to four days subsequent to the operation.

Condition of the Patient at the Time of Operation.—With the exception of two, who were the subjects of malignant disease of the ovary, the condition of the patients was good. All were placed upon preparatory treatment, extending over periods varying from two weeks to two months.

Line of Incision.—In all cases the abdominal cavity was opened by incision in the linea alba, midway between the umbilicus and pubes, the length of the incision varying according to the nature of the tumor and the presence or absence of adhesions. A simple,

monocystic, non-adherent growth was extracted easily through an opening one and a half inch in length; whilst other tumors, polycystic in character, with numerous and strong adhesions, required incisions from four to six inches in length, in order that the hand could be introduced into the abdominal cavity, so as to sweep over the external surface of the tumor for the purpose of detaching adhesions, and also into the interior of the growth to disintegrate its contents, and thus reduce its size. The incisions were invariably closed by the introduction of metallic sutures—iron or silver wire—the needle being carried so as to include the peritoneum.

Adhesions.—In eighteen cases, adhesions, either parietal, omental, or visceral, existed—differing greatly as to extent and character. In some instances they were so slight as to be separated readily with the finger: in others, they were very extensive and very firm, requiring some force to effect their detachment, and exposing denuded, bleeding surfaces. In one of the fatal cases the adhesions were universal, and so firm as to require a minute dissection to be made, in order to effect removal of the cyst.

In a second case, a portion of the parietal surface of the peritoneum as large as the palm of the hand, and embracing the sub-peritoneal fascia, was detached, leaving a broad band of attachment. This was included in three animal ligatures, and the detached portion removed. During the period of recovery, which was not retarded, the patient referred to the position of the exposed surface as a sensitive point. In still another case, an adhesion, in the form of a cord, at least two inches in thickness and from four to five inches in length, fastened the tumor to the parietes. It was drawn down and a double animal ligature applied before section was made. Hemorrhage caused by the separation of adhesions has been controlled by the application of carbolized silk and animal ligatures, both ends being cut short and the ligatures permitted to remain "*in situ.*" In some instances, torsion of the vessels has been sufficient to restrain the bleeding.

Character of the Cysts.—Four cysts were unilocular, sixteen were multilocular, and in two, malignant disease existed. In one of the latter medullary cancer involved both ovaries, and in the other colloid disease was present.

Double ovariotomy was performed in two cases.

Primary or Secondary Operation.—In one case the operation was secondary, ovariotomy having been performed thirteen years previously. In this instance the incision was made to the side of the cicatrix of the primary operation, so as to avoid wounding the pedicle of the tumor removed, which was found to exist as a small cord attached to the inner surface of the abdominal wall, and to be of such length as to permit the uterus to occupy a normal position. Elongation and shrinkage of the pedicle has been observed in *post-mortem* examinations made in cases in which death occurred some years after ovariotomy.

Treatment of the Pedicle.—In all but one case the pedicle was secured by the application of the clamp; in the case excepted, a carbolized catgut ligature was applied, both ends cut short, and the pedicle was returned to the abdominal cavity. In cases of very short pedicles I have been able always to secure them with the clamp, and in no case was it observed that the traction made to accomplish this produced any harm. In one instance of an extremely short pedicle, where, in fact, the wall of the cyst was separated not more than a half inch from the uterus, a double animal ligature was applied, which failed to control the hemorrhage. The clamp was then applied over the ligature, bringing the uterus well up between the edges of the incision. Although the patient had a tedious convalescence, the ligature and clamp came away in good time, and the abdominal incision healed kindly. Beneath the cicatrix the uterus could be distinctly outlined, and after the return of the patient to her usual duties no complaint was made of pain caused by traction upon the organ. In one case only was there noticed a slight tendency to the occurrence of ventral hernia, and this in a young patient who slipped and fell on the icy pavement a short time after recovery from the operation. A good deal of tension of the abdominal walls was felt in the act of falling, and it was thought a slight detatchment of the pedicle had occurred. Rest in bed for a few days, with pressure over the cicatrix, relieved the condition.

In nearly all of the cases in which the clamp was applied it was observed that it could be removed safely at about the same time with the last of the sutures, and, therefore, the healing of the abdominal incision was not materially delayed. In one or two cases both sutures and clamp were permitted to remain longer than usual. In favorable cases the first of the sutures was usually removed on the sixth day, and the clamp on the eighth or tenth.

In three cases menstruation has occurred by the pedicle. In all of the cases it took place but once, and did not produce any serious inconvenience. It occurred in one of the cases in which double ovariotomy was performed, two clamps having been applied to the pedicles without difficulty.

Strangulation of the intestine has been noted as being due to the use of the clamp. In my observation of the cases of others, and in my own, I have not met with an accident of this nature. As it has followed likewise the use of the ligature, it cannot be ascribed alone to the employment of the clamp.

The support afforded to the uterus by the attachment of the pedicle to the abdominal walls has seemed, in some of the cases, to have been of benefit, overcoming displacements which were productive of much previous discomfort.

In one of the three fatal casès which occurred, the ligature was applied and the pedicle returned to the abdominal cavity; death resulted on the third day from septicæmia, and the autopsy showed the stump of the pedicle softened and covered by a grayish slough. This condition of the pedicle was, I think, not a primary condition, but was a part of the general inflammation which pervaded the abdominal cavity, occurring in a case in which the cyst was adherent in every part to the parietes and viscera, and which required minute dissection to effect its separation.

While the tendency of the present day is to return to the use of the ligature as an exclusive method of treating the pedicle, I think it unwise to discard entirely the clamp. The imbedding of the ligature and its subsequent absorption demand a degree of reparative power, which some much debilitated patients do not possess; in such cases it would appear proper to employ the clamp.

Drainage.—In one case it was thought desirable to secure drainage of the abdominal cavity after operation. For this purpose a large perforated rubber tube was introduced and allowed to remain in position for three days. During this period no fluid escaped, and the symptoms presented by the patient gave no indication of the collection of septic fluids. Of the great value of drainage after ovariotomy there can be no question. Its use is especially indicated in cases in which adhesions of some extent have existed.

Antiseptic Precautions.—In fourteen cases the antiseptic methods were employed in full detail at the time of operation, and partially during the conduct of the after-treatment, the spray being then omitted. The

successful results which have attended some of the cases were undoubtedly due to its use. The condition of the patients during the after-treatment was favorably influenced, and convalescence was promoted. Of three fatal cases, one occurred after operation under this system. The tendency of most operators at the present time is to employ a modified form of the system, owing to the fear of constitutional impressions made by the agents employed. The constitutional effect of the carbolic acid has been observed in two or three cases in the condition of the urine; other than this no symptoms were noted.

It has been stated above that menstruation by the pedicle occurred in three cases. In one a marked impression was made upon the temperature, and the elevation, occurring as it did without being accompanied by a corresponding increase of the pulse-rate, attracted attention. On the day preceding the appearance of the flow the pulse was 84 and the temperature normal, 98½°. On the day of its appearance the temperature rose to 100°, and on the third day reached 100⅝°, then declined to 99⅗°–99°, and on the day of the cessation of the flow returned to the normal, 98½°—the pulse-rate in the meanwhile remained unchanged. As the elevation of the temperature occurred after convalescence had been fully declared, and the patient was within two days of the period when she would have been permitted to sit up, some anxiety as to the cause existed, which was not relieved until its relation to the presence of the menstrual flux was considered.

In two of the cases pregnancy occurred and terminated safely in connection with the development and growth of the cysts. In both, the cysts had attained large size, and notwithstanding the pressure exerted during parturition rupture did not occur. In one, puerperal peritonitis supervened, causing the formation of extensive adhesions; in the other, slight but firm adhesions were found.

In cases under my care recently, quinine has been administered in large doses in the twenty-four hours preceding the operation, with a view to obviate shock, and in this respect its use has been attended with success. Thirty to sixty grains, in divided doses, have been given, and in each case so treated shock has been absent. In the preliminary and after-treatment it has also been given in tonic doses.

The duration of the operation has varied from thirty minutes to two hours; in the former time, monocystic non-adherent tumors have been removed and the wound closed. The latter period of time has been required to remove polycystic growths, with extensive and firm adhesions and many bleeding points to control. Serious complications during the operation and after-treatment have occurred in but two cases. In one already alluded to the adhesions were so extensive as to complicate seriously the operation and to render the result fatal. In the other, the slipping of the ligature and the persistence of hemorrhage for some hours after the closure of the wound complicated the operation. This patient's recovery was slow, two months and a half elapsing before she was able to leave her bed, in which period there occurred in order the following complications—obstinate, uncontrollable diarrhœa, suppuration of hemorrhoids, formation of a large bed-sore over the region of the sacrum, with destruction of the sacro-coccygeal articulation, and a condition of blood-poisoning with swelling of the left parotid gland. Recovery finally took place, and the patient has been able to maintain herself by her work as a seamstress.

The size of the tumors varied greatly, and the weight from three to sixty pounds.

With one exception, all the operations have been performed either in private houses or in a private hospital. One was operated upon in a private room of a general hospital, and in this a fatal result ensued—death, however, could not be attributed to this fact, but rather to the complications which existed in the case. In all cases careful attention was given to the preparation of the apartments so that the patients should be placed under the most favorable hygienic conditions.

In the cases in which the progress was favorable the patients, as a rule, sat up in bed on the twelfth day, and on the fourteenth were permitted to get out and occupy the lounge or an easy-chair. At the end of the third week gentle exercise about the house, and, in favorable weather, in the open air was allowed. This exercise was continued daily so as to prepare the patient, if living out of the city, for the journey home, which was undertaken between the fourth and fifth weeks after operation.

For twenty-four hours after the operation no food was given—at the end of this time, one ounce of milk, with lime-water, if vomiting had occurred, or if there was nausea, was given every three or four hours. In two or three days the amount of milk was increased to two ounces every three hours, alternating with a teaspoonful of beef-juice in three tablespoonsful of water. In some cases the beef-juice was administered instead of the milk from the first. As convalescence advanced additions were made cautiously to the diet, no solid food being given until the sutures and clamp had been removed and the bowels moved freely by enemata.

Usually enemata of soap-water and olive oil were administered on the eighth day, and on alternate days, subsequently, until evacuations occurred naturally. The catheter was used every six or eight hours for five days, and then efforts at evacuation of the bladder were permitted to be made by the patient.

When possible to avoid it, opiates were not administered. When required to relieve pain or secure rest, morphia in one-sixth to one-quarter of a grain was given hypodermically.

In the twenty-five abdominal sections death occurred in four cases—three after operation for the removal of ovarian cysts, and one after operation for the removal of the child in extra-uterine fœtation. Septicæmia was the cause of death in two of the ovarian operations, and in the case of extra-uterine pregnancy. Shock and hemorrhage produced a fatal termination in the case of malignant disease of both ovaries in which double ovariotomy was performed.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 7, 1882.

THE PRESIDENT, FORDYCE BARKER, M.D., LL.D., IN THE CHAIR.

THE minutes of the previous meeting, and the usual reports of the Librarian and Corresponding Secretary were first read and approved.

DR. BARKER stated that, having acted as presiding officer of the Academy during a period of four years, he desired to make a few remarks relative thereto, pending the close of his second term of office. During his presidency the Academy has been unusually prosperous. A large number of valuable scientific papers have been read by Fellows of the Academy, extensive additions to the library have been made, and the general financial condition of the organization has been greatly improved. He said that the Academy's recent prosperity was the result of the good work which had been done before, and that he had been extremely fortunate in having been the incumbent of the chair during this particular period. In conclusion he signified his intention of not again becoming a candidate for the office of President.

The nominations for officers were next proceeded with, after which the scientific work of the evening was taken up. This consisted in a paper by ALLAN MCLANE HAMILTON, M.D., entitled,

A CASE OF MYXŒDEMA, WITH A CONSIDERATION OF THE NEUROTIC ORIGIN OF THE DISEASE.

The paper began with a brief, but careful, mention of the few cases of this new and interesting disease already reported. Myxœdema is an affection of adult life, chiefly in females. It resembles cretinism; also Bright's disease, with which it has been confounded. It usually occurs after the menopause, and in women who have been many times pregnant. The symptoms are well marked, characteristic, and more than ordinarily constant. There is swelling of nearly all parts of the body, notably of the cheeks, nose, lips, eyelids, and tongue. The legs and ankles are often enlarged. On pressure there is no pitting; the surface is tough and resilient. The part pressed upon regains its form when the pressure is removed. Sensibility to peripheral impressions is decidedly diminished. Numbness is present, and sometimes formication. The skin is altered in texture, as well as in color. There is little or no perspiration, and little response to friction or stimulation of the surface. At times there are warts and moles in various regions. The finger ends are clubbed. This, in common with many other symptoms, is apt to be more marked on the right than on the left side. The nails are brittle, and their thickness and configuration changed. The hair comes out from the axillæ and pubes, as well as the head. The thyroid gland wastes away, and fatty deposits are often made in its atrophied substance.

Lowering of temperature is a very important symptom. This tends to be more marked on the right side, which is often a degree or more lower than the left side. In a case where seventy-one observations were taken, the normal was reached in but sixteen. The temperature never exceeded 98.6°, and it fell below 97° nineteen times. It may decline to 95°, and in one fatal case it was 94° for a day or more before death. The temperature is lowered both superficially and internally; and patients complain that they feel very cold.

The mind is involved early in the disease. The first symptoms vary. There may be hallucinations, melancholy, moroseness, bad dreams, and disturbed sleep, and even mania. Later there is marked apathy. Mental processes are very sluggishly performed. The patient is forgetful, especially of recent events and trifling duties, dull of perception and comprehension, and lacks power of concentration.

The special senses are less acute, especially the hearing, taste, and smell. The sight is not often affected. The speech is slow and thick; the voice nasal, harsh, and monotonous—these changes arising from the mental inactivity, from the enlargement of the tongue, and sometimes from relaxation of the vocal cords. In some cases the saliva is very profuse; in others there is an abundant watery secretion from the nose. Sometimes the tendon-reflex is exaggerated. Electro-muscular contractility and galvanic reaction may be diminished on the left side.

There is also motor enfeeblement and derangement. The loss of power is often general, but some patients who perform great efforts with ease fail in minor matters. They are awkward in all their movements, especially those requiring delicate coöperation of several muscles, as in threading needles, buttoning clothes, writing, etc. The peculiar gait resembles the waddling of a duck.

The arterial tension is generally increased. This may be shown by the sphygmograph, though the toughness of the skin makes it somewhat difficult to get satisfactory tracings. There are rarely any heart lesions. The pulse is slow and feeble. The red blood-corpuscles are reduced in number, and especially in size, giving rise to anæmia.

Albumen is seldom found in the urine, very rarely in the early stages. The urea is diminished in amount, sometimes to two-fifths the normal quantity. This may be explained, at least partially, by the muscular inactivity. The specific gravity of the urine, as a rule, is low. Sugar has been present in but one case.

Dr. Hamilton cited a recent case of his own, presenting many of the foregoing symptoms. The patient is a woman 55 years old. She is married, and has been pregnant eight times. Her characteristic symptoms date back about eighteen months.

The speaker believed the etiology of myxœdema to be very obscure.

He dwelt at some length upon the pathology of the disease and its relation to the pathology of other puzzling reflex maladies. Post-mortem examinations have not been numerous, careful, or searching. No microscopical examinations have been made of the brain, medulla, cord, or sympathetic ganglia. However, it is generally conceded that the primary lesions are in the nervous system. The existence has been established of a principal vaso-motor centre in the medulla which, when irritated, contracts the vessels and lowers the general temperature. This centre Dittmar locates in the lateral columnar tract of the formatio reticularis, between the corpora quadrigemina and the calamus scriptorius. The experiments of Goltz and others show that this centre controls the action of the lower centre or centres. This centre is near the origin of the trigeminal, the hypoglossal, and the auditory nerves; disturbances of which will produce salivation, facial anæsthesia, an ataxic condition of the tongue, and impaired hearing. Irritation of certain parts of the floor of the fourth ventricle, near the above-mentioned vaso-motor centre, will produce glycosuria. Gruetzner found that an irritation of the medulla that would cause profuse salivation also caused irritation of the sympathetic, evidenced by general rather than local manifestations. Dr. Hamilton therefore believed that a tissue change, even that limited to the medulla, was capable of producing a general disorder of the trophic centres. He refers the seat of the primary lesion in myxœdema to the principal vaso-motor centre in the medulla. The mental symptoms are caused by the resulting vascular disturbances in the brain. The cutaneous trophic change he was inclined to refer to subsequent changes in the lateral and posterior columns of the cord. Cell degeneration in the giant cells of the anterior horns and the gray matter of the posterior columns has been observed in one case. Though the cause of the cutaneous change is obscure, there is significance in certain facts and experiments.

Raynaud and Arthaud have lately shown that in certain cases of spinal sclerosis, attended with trophic cutaneous derangements, there is degeneration of the spinal sympathetic ganglia, with disappearance of Remak's fibres and destruction of the nerve cells. Moreover there is a close connection between pigment alteration, thyroidal enlargement or atrophy, and mental disturbance. Myxœdema appears to be a sort of antithesis to exophthalmic goitre. In all carefully reported cases of myxœdema there are striking nutritive changes, indicative of a pathological upheaval of the sympathetic nervous system.

A microscopic examination of the skin showed great increase in fibrous tissue, and general evidence of a low inflammatory process. The vascular walls were thickened, and they were infiltrated with mucin. Though several sweat glands were seen, not one had a duct that was pervious to the surface. No nervous

degeneration was discovered. The brain shows atheromatous vessels, and is anæmic

The only affections from which it really needs to be differentiated are the various forms of renal disease. Myxœdema should include only cases with tough elastic swelling, mental derangement, speech defects, thyroidal atrophy, deafness and constant lowered temperature.

The prognosis is usually bad. It probably belongs to the long list of progressive degenerative and fatal disorders of the nervous system. Its course is a comparatively long one.

The treatment is not very satisfactory. Jaborandi has been tried without avail. Sulphur baths have been recommended. Nitrite of amyl, and nitro-glycerine in $\frac{1}{50}$ drop doses, have proven beneficial.

The paper closed with a bibliography of the subject.

DR. BALL, being called upon to introduce the discussion, remarked that he did not propose to discuss the paper. The only contribution he could make was to refer to two or three points of interest in a case of myxœdema now under his own observation. The patient was a woman forty-five years of age, whose myxœdemic symptoms dated back nine years. Her general health was in such a condition that in all probability she would live several years longer. Before she came under the Doctor's treatment, which was eight years ago, she was under the care of another physician, who was extremely puzzled in regard to her case and had made a diagnosis of idiopathic anæmia. When the patient first came under the observation of Dr. Ball, some eight years ago, the objective symptoms of the disease were quite characteristic. Her mental symptoms, though peculiar to the disease at that time, were not as marked as at the present. About a year after she began to manifest symptoms of the disease, her menstruation ceased entirely and remained absent five years, at the end of which time she became pregnant, and, arriving at full term, she was delivered of a healthy child, who still lives and is in good health. In 1877 the patient was seen by a prominent neurologist of this city and a diagnosis of Addison's disease was made, together with the prognosis of fatal result within a year. No very good reason for such a diagnosis was apparent, the only symptom which might lead to the suspicion of the disease being bronzing of the face.

There was one other point of some interest in the case to which he would like to refer, and that was that although the œdema in the majority of these cases is a solid œdema, yet there are cases, and the one under consideration is one of that kind, in which there is a certain amount of ordinary œdema; that is to say, the feet and ankles do pit on pressure as much as in the ordinary anasarca of Bright's disease, and this is independent of any trouble with the kidneys. Examinations of the urine in this case were begun as far back as nine years ago, and have been repeated at intervals up to the present time with the result of finding no evidence of renal disease. Hence it will be seen that the œdema is not always solid.

There is still a third point of interest in the case, namely, that the patient is subject to paroxysmal enlargement of her whole body. This enlargement of the body is so manifest as to attract the attention of her friends. It is marked by the diminution in the secretion of urine for three, four, or five days, at the end of which time she begins to pass large quantities of limpid urine, and the swelling of her body subsides so rapidly that she says she can almost feel herself becoming smaller. Dr. Ball was not aware of this being a common symptom of the disease, but in his patient it was well marked.

The hair of the head in this patient had fallen off to a considerable extent, and from the axillæ and pubes it had entirely disappeared. The typical facial expression of myxœdema is very marked in this case, so much so that when she was seen unprofessionally in this city by a physician, during the absence of the speaker, the physician was forcibly impressed by it, and though he had never seen a case of myxœdema, he wrote a letter to Dr. Ball on the following day asking if his patient was not suffering from myxœdema; so exactly did her facial expression resemble that described as peculiar to the disease. Dr. Ball thought these facts went to show that we had to deal with a special form of disease, and not a part of the general form of disease which Sir William Gull, Mahomed, and others have described. Dr. Mahomed had laid a great deal of stress upon the fact that Bright's disease is not confined to the kidneys, but is a general disease; that only 30 per cent. of the cases of Bright's disease die of the renal lesion. It was thought that to consider myxœdema as only one form of Bright's disease was rather stretching a point. The symptoms present were so entirely different from those of ordinary Bright's disease, or even the general form of Bright's disease to which authors have alluded, that it seemed proper that the disease should not be looked upon as a special one. The nervous symptoms were not the same as those found in Bright's disease and these were, not oftentimes, but generally, seen in the early stages of the disease. In his own patient the mental inactivity was a marked symptom early in the disease.

DR. BULKLEY said that he had had the pleasure of seeing five of Dr. Ord's cases presented at the International Congress in London, more than a year since. Some of the cases he thought would not have been recognized from their appearance as cases of myxœdema unless carefully examined. Two of the patients, however, were remarkably stupid. One or two had the drooping head characteristic of the disease. The affected tissues were enlarged by a process of non-inflammatory infiltration. An important point seemed to be the early recognition of the disease. The speaker had two patients now under observation in which he thought it was probable that myxœdema was present. In one the œdematous swelling was very marked upon the hand, and her facial expression was quite characteristic. She is a music teacher by occupation, and is a person who is constantly under enormous mental strain. Preceding the development of her present condition she had two attacks of an inflammatory condition of the skin with eczematous patches, and the formation of large boils. On these occasions she suffered greatly. The second patient was a very nervous lady, and had only come under observation within the past two or three days. He was unable to offer any suggestions regarding treatment. He referred to a case exhibited at the Dermatological Society in which myxœdema was suspected.

DR. ALEXANDER said that the patient referred to by Dr. Bulkley had suffered since two years of age from swelling of the face, which seemed to be a hypertrophy of tissue rather than a condition characteristic of myxœdema.

DR. W. T. ALLCHIN, of London, being called upon by the Chair, after characterizing the paper of the evening as, in his opinion, the most masterly summary of existing knowledge on the subject of myxœdema, said that he had no clinical experience with the disease. He thought that the point of special importance in connection with the disease just now was the consideration of its possible cause. The determination of the causes of disease was one of the most difficult parts of our knowledge, and it seemed that in this case the ordinary difficulties were added to on account of medical gentlemen being somewhat shy in expressing opinions fully, for fear of rashly anticipating views which

may soon be disproved. He thought that the expression of the opinion that the disease was of neurotic origin might be a source of fright to some. We were singularly deficient in our knowledge of the minute morbid anatomy of the disease, and he thought that the most important point of Dr. Hamilton's paper was, after all, the description of the microscopical appearance of the piece of skin removed from his patient. Pathologically, he thought, the lesion would be found to be a trophic change in the connective tissue. The presence of the nuclear overgrowth and mucin showed a failure in the reparative processes and consecutive growth of tissue. He thought we were hardly warranted in making conjectures as to whether the disease was of central or peripheral origin until we ascertained by post-mortem studies what tissues were principally affected.

There were no further remarks upon the paper.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, November 14, 1882.

T. M. Markoe, M.D., President, in the Chair.

Dr. E. L. Keyes read a paper on

PNEUMO-URIA.[1]

Dr. H. B. Sands thought that most surgeons had seen cases in which a gas had been expelled from the bladder; but, in the large majority, as had already been stated by Dr. Keyes, there existed a fistulous communication with the intestinal canal. There were some pathologists who believed this to be the only source of gas in the bladder, except when atmospheric air was introduced from without. One eminent medical authority, Dr. A. Clark, doubted the possibility of gas being the result of decomposition of the contents of the bladder. Dr. Sands had got so far, however, as to believe that such was sometimes the fact, and he could recall distinctly two cases, and indistinctly a third, in which he had concluded that the gas which was emitted from the urethra in considerable quantities, was the result of decomposition of blood-clots remaining in the bladder during severe hæmaturia. One of these patients he saw, many years ago, in consultation with Dr. McCready, and a careful examination failed to reveal any fistula. The air never escaped from the bladder except during attacks of hæmaturia, and not always then. He was not positive whether it was odorless. He believed careful and further inquiry was necessary in order to establish the fact that atmospheric air was ever found in the urinary bladder, unless it had been introduced from without. To the careless statement made by Mallez that, "it was not uncommon to find air in the bladder," he would not attach any importance whatever.

With regard to the probability of air being secreted by the vesical wall, he doubted whether there was any close analogy between the bladder and the intestines. He was not aware to what extent the gases of the intestine were the result of a secreting process on the part of its lining membrane, and how far they were the result of fermentative changes occurring in its contents. He believed, however, that the alimentary canal contained no atmospheric air beside that which had been swallowed in the ingesta. The organ analagous to the urinary bladder was the gall-bladder, and he was not aware that air had ever been found in that viscus.

The President asked whether or not it had been determined by physiologists or chemists that atmospheric air could be produced by decomposition of any kind. He thought he was quite safe in assuming that no form of decomposition gave rise as one of its products to atmospheric air, and, therefore, that if the gas in the bladder in the cases reported had been proved to be atmospheric air, the probabilities were in favor of its having come from without.

Dr. L. A. Stimson, referring to the case mentioned by Dr. Keyes in which the gas was proved to be nitrogen, said that free nitrogen was not a product of the putrefaction of an albuminous substance like blood. Free nitrogen in very small quantity was held in solution in the blood, but so also was oxygen; and there was no reason to suppose that either would be given up by the blood to remain free in the bladder. A possible source of the nitrogen was the urea of the urine in the bladder. A common method of quantitative analysis of the urea is to decompose it, and measure the volume of its nitrogen, and as a small amount of urea furnishes a large bulk of nitrogen (one grain gives nearly two cubic inches) a very extensive decomposition would not be needed to produce the amount of gas observed. The decomposition is effected by very simple measures, the addition of Labarraque's solution, outside the body, and it might perhaps be as readily effected within it.

Dr. Weir referred to two cases in which, the patients suffering from cystitis from an enlarged prostate, air was discharged from the bladder through the urethra, but probably it was admitted from without, as a catheter was in frequent use in both cases. He would add to the references made by Dr. Keyes, an excellent article written by Blanquinquic on vesico-intestinal fistulæ, in which the writer speaks of air being found in the urinary bladder, but does not consider it to be clearly established, and he gives his conclusion that the spontaneous discharge of bubbles of air at the close of urination indicates without doubt that the cause of these is the intestine.

Dr. Keyes was quite certain that he had seen a case in which gas was formed in the stomach of a patient who had diabetes, and finally died of albuminuria. He took no food whatever by the mouth during a long period, and yet he belched enormous quantities of gas.

He had also seen one case where gas appeared in the bladder, as the clot from hæmaturia was breaking up, and he supposed it arose from decomposition of the blood.

Dr. George A. Peters recalled a case in which there was considerable gas in the bladder in connection with hæmaturia, and it ceased when the hemorrhage stopped. He supposed that the gas was one of the results of decomposition of the clot.

[1] See page 675.

NEWS ITEMS.

HERKIMER, N. Y.

(*From our Special Correspondent.*)

The Herkimer County, N. Y., Medical Society and the New York Code.—At the semi-annual meeting of the Herkimer County Medical Society, held December 5, the following preambles and resolutions were passed, only one vote having been recorded against the motion:

Whereas, The New York State Medical Society, at its last annual meeting, adopted a new system of ethics, in place of the code hitherto in force, for the guidance and conduct in practice of the medical profession of this State, and,

Whereas, We believe that in making the radical changes therein contained they have placed us directly in conflict with the parent organization, the American Medical Association; therefore,

Resolved, That we, the Herkimer County Medical Society, hereby declare our continued allegiance to the precepts and ethical Code of the American Medical Association, adopted June 15, 1847.

Resolved, That the delegate to the State Medical Society be instructed to urge by all honorable means the repeal of the existing Code.

Thirty-four of the New York County Societies have already declared against the new Code, and but two have accepted it.

BROOKLYN.

(*From our Special Correspondent.*)

THE SUIT FOR MALPRACTICE AGAINST THE LONG ISLAND COLLEGE HOSPITAL.—The recent suit of Carl Eibee against the Long Island College Hospital to recover twenty-five thousand dollars on the ground of alleged malpractice by the surgeons of that hospital, while he was an inmate under treatment for severe injuries caused by the fall of a boiler upon him, was dismissed by Justice Gilbert, in the King's County Supreme Court, the Court holding that neither malpractice nor negligence were shown. This case was watched with much interest by the neighboring profession.

BALTIMORE.

(*From our Special Correspondent.*)

THE INFLUENCE OF DIGITALINE UPON THE HEART.—MESSRS. H. H. DONALDSON, A.B., Fellow in Johns Hopkins University, and L. T. STEVENS, A.B., have been conducting a series of observations upon the influence of digitaline upon the heart of the slider terrapin and the frog. Their very interesting results are appended, and it is to be hoped that they will be asked to continue their researches upon the isolated mammalian heart, as proposed.

The results which we have to mention are derived from two groups of experiments. The first was carried on by Messrs. Warfield and Donaldson during the first five months of this year; the second, which is simply a continuation of the first, has been carried on by Messrs. Donaldson and Stevens since October. Though they are not yet complete, we are, however, able to give some of the results which have been obtained.

The first investigation was on the work of the heart, and the object was to determine whether the work done by the isolated heart was increased or decreased by moderate doses of digitaline. The heart of the slider terrapin was used (*Pseudemys rugosa*, Shaw). Carefully isolating the heart from its connection with extrinsic nerves and the rest of the circulatory system, it was supplied with a continuous stream of blood under conditions of pressure and temperature as near the normal as possible. It was then found that when the heart, beating normally, was treated with a small dose of digitaline, the work invariably decreased. The full account of these experiments was published in the *Studies from the Biological Laboratory of Johns Hopkins University*, vol. ii., No. 3. This fall, the frog (*Rana mugiens*) was used instead of terrapin; the same result, however, followed—*i. e.*, the work done by the heart decreased under moderate doses of digitaline.

With a view to testing the influence of abnormal blood pressures on these results, some experiments were made in which both venous and arterial pressures were varied within wide limits, but the work always decreased. To test the effect of aortic insufficiency, the canula was pushed in the aorta down past the semilunar valves into the ventricle itself. Under these conditions the heart weakened very fast, but the only effect of digitaline was to decrease the work. A study of the separate beats of the frog's heart shows that the work at first decreases, because the excursion of the ventricle—the variation of capacity between diastole and systole—is somewhat decreased, the rate of the pulse being only slightly diminished. Later the pulse is often slowed to half the normal rate while the work has by no means decreased proportionally, This arises from the fact that the excursion of the ventricle is now much greater than is normal, and thus somewhat compensates for the diminished pulse rate. In this latter case the individual beats of the heart are very much strengthened.

To test the variation in form which takes place in the heart under digitaline, use was made of Roy's tonometer (*Journ. of Physiology*, vol. i., No. 6). By this means one can determine whether the primary diminution in the excursion of the ventricle is due to a gradual shrinkage or distention of the ventricular muscle. Experimenting with the isolated ventricle, they have always obtained evidence of a shrinkage—that is, the ventricle tends more and more to remain in the systolic condition. They have not yet been able to observe in these experiments the condition of the ventricle described above, where it beats slowly, but at the same time with an excursion much greater than normal.

The isolated auricles also shrink under the action of digitaline. This shrinking of the auricles can be directly observed in the heart of the terrapin without the aid of any apparatus, but in the case of the frog it requires the tonometer to make it plain. The variations in the volume of the whole heart have not yet been tried.

By moderate does are meant, from .0005–.002 grm. of the soluble German digitaline mixed with 100 cc. of nutrient fluid. The drug used was prepared by Merck.

The bearing of these results can be briefly noted. Starting from the fact that they do get a rise of blood pressure under digitaline, it is evident that this rise is not due to the heart, because, under all varieties of conditions, the heart does less work.

The rise must then be due to a narrowing of the arterioles, a view maintained by many, but on which they can, as yet, offer no direct evidence. It appears, then, that digitaline is a drug by means of which we can maintain a high arterial pressure and at the same time reduce the amount of work done by the heart itself.

It is hoped in the course of the year to extend these observations to the isolated mammalian heart, and thus render the series of experiments complete.

NEW ORLEANS.

(*From our Special Correspondent.*)

YELLOW FEVER.—Among the recent admissions to the Charity Hospital, was one of yellow fever: At least such would be the almost unanimous verdict of our profession throughout Christendom, if the symptoms and facts were laid before them.

The facts as presented are as follows: An English seaman arrived at New Orleans on the 15th of November, his ship having touched at several ports in the island of Cuba, but certainly at Cienfuegos on Sunday, November 12th. The ship left Cienfuegos on the 13th, on which day the sailor took sick. He was brought to Charity Hospital on the day of arrival. "On the 17th at 8 A.M., temperature, 100°; pulse, 60; vomiting fluid with dark deposit; eyes injected and jaundiced; body slightly jaundiced; dark brown coating over tongue—edges and tip very red; gums much congested, and bleeding on slight pressure; has passed no urine for fifteen hours; catheter introduced and two ounces drawn—nearly one-half albumen. He complained of thirst and pain in the epigastrium. At 7 P.M., temperature

100°.5; pulse 72, weak; restless; mind clear; eyes and surface more jaundiced; vomited a basin half-full of dark grumous fluid; one and a half ounces of urine obtained by catheter, one-third albumen. 10 P.M., very restless, delirous; pulse barely perceptible; convulsions and death at 10.30 P.M." During his sickness well-marked extravasations occurred around mosquito-bites upon his face and hands.

In this case the death was entered upon the mortality records as having been caused by "hemorrhagic malarial fever."

In all instances where it is possible to do so, the facts connected with these fatal cases of "hemorrhagic malarial fever" should be laid before the profession for instruction and such criticism as may appear to be proper. Otherwise we are liable to the charge of employing the term as a scapegoat for either erroneous diagnosis or for premeditated concealment of the true nature of the disease.

We have seen some hundred or more cases like the one just reported, but among the whole number not one could be properly referred to the swamp-poison. There is no point more strongly marked in the whole range of medical pathology than the contrast between the malarial poison and the yellow fever poison in establishing a hemorrhagic diathesis.

People may preach heresies in religion or in astronomy, and declare that the "sun do move," and we may be speedily rectified without appreciable damage. But the inexperienced observer, after reaching such a clinical report of symptoms and the diagnosis, may innocently enough allow a real case of yellow fever to breed a destructive epidemic.

THE ANNUAL DINNER OF THE MEDICAL AND SURGICAL ASSOCIATION has just been celebrated. The occasion was unusually agreeable.

THE NEW ORLEANS MEDICAL AND SURGICAL JOURNAL has just been purchased by Dr. W. H. Watkins. Dr. S. M. Bemiss, the senior editor of this periodical, has retired from medical journalism. The new editorial corps will appear on the cover of the December number of the Journal. Your correspondent does not know how the names will be arranged, but he does know that men of ability will be joined with the new editor, and that the Journal will gain in interest and value by the change.

CANADA.

(*From our Special Correspondent.*)

ONTARIO HEALTH BULLETIN.—The Provincial Board of Health of Ontario is publishing a weekly bulletin, in form of a colored map, on which the Province is divided into ten districts, and the six diseases most prevalent in these are arranged in order of their prevalence; at the same time the percentage of each disease is given. From the map we gather that malaria prevails extensively in the three districts bordering on Lake Erie. In No. 10, the Lake St. Clair district, the percentage of intermittent fever is given as 22. In district No. 3, the Muskoka region, 8 per cent. of the cases reported were gonorrhœa. The word "Lumbermen," printed across this region probably explains the fact. A weather report accompanies the map, and diagrams showing the comparative area of prevalence of the various diseases.

The publication of the bulletin will do much towards directing the attention of the profession and public to sanitary science.

PUBLIC HEALTH.—The most important health convention which has taken place in the Dominion met in Ottawa on the 6th and 7th of this month. Delegates were present from each of the Provinces, and the whole question of vital statistics thoroughly discussed. The following resolutions were carried:

1. That a uniform system of collecting and compiling health statistics be adopted for the whole Dominion.

2. That the Dominion Government be requested to take measures to procure reliable health statistics from every city, town, or municipality where local boards of health are now or may hereafter be established, with the view of determining the locality and nature of diseases to which Canada is subject.

3. That a Bureau of Vital Statistics be established at Ottawa in connection with one of the public departments.

The delegations afterwards met the members of Government and presented a series of resolutions. Unfortunately, the Act of Confederation leaves health matters with the local government, while the Dominion Government has to do only with vital statistics. The possibility of amending the Act was discussed. A meeting was subsequently held, and the necessary preliminary steps taken to organize a Canadian Sanitary Society.

VIENNA.

(*From our Special Correspondent.*)

PRIORITY CLAIM FOR INTRODUCTION OF IODOFORM.—At a recent meeting of the Society of Physicians in Vienna, Prof. E. Ludwig read a very valuable paper upon iodoform. In the discussion which followed, a very spirited dispute arose as to the priority claim of introduction of the remedy into surgery.

Dr. Braum, Prof. Mosetig's assistant, claimed the honor for his *Chef.*

Docent Dr. Kohn affirmed that Lazauski, in Prof. Pick's clinic, applied the remedy before any one else, in the treatment of venereal ulcers.

Docent Dr. Grünfeld asserted that he, himself, had used an iodoform salve still earlier.

Prof. Ludwig quietly put an end to the angry disputation by saying that the literature of the subject showed very plainly that the drug had been extensively used, in very various diseases, as early as 1822.

DR. MORRISON, OF BALTIMORE.—Dr. Morrison, of Baltimore, who has been studying dermatology and syphilis for a long time in Vienna, with Profs. Neumann and Kaposi, is announced for a paper before the next meeting of the Society of Physicians of Vienna, embodying his recent researches upon the bacteria of syphilis.

A NEW INSANE ASYLUM FOR EASTERN NEW YORK.—A resolution was introduced at the meeting of the Board of Supervisors held at Poughkeepsie, last Monday, urging the erection of another Hudson River State Hospital for chronic insane cases, for the accommodation of the eastern portion of the State, and asking the co-operation of the Supervisors of the counties of Clinton, Franklin, Warren, Washington, Saratoga, Rockland, Albany, Rensselaer, Green, Columbia, Westchester, New York, Kings, Queen, and Suffolk.

DR. HOLMES' SUCCESSOR.—DR. THOMAS DWIGHT, former professor of anatomy at Bowdoin College, and grandson of Dr. John C. Warren, the predecessor of Dr. Holmes, will complete the course of lectures on anatomy at the Harvard Medical School this winter.

SURGEON-GENERAL OF NEW YORK.—Governor-elect Cleveland, of New York, has just appointed Joseph D. Bryant, M.D., professor of anatomy in Bellevue Hospital Medical College, Surgeon-General of New York State.

The Library of the Surgeon-General's Office.—The Medical Society of King's County has adopted the following resolution in support of the present management of the Surgeon-General's Library.

Resolved, That the Medical Society of the County of Kings learns with regret that there is danger that the Surgeon-General's Library, which is considered the most complete medical library in the world, will be merged into the Congressional Library; and hereby urgently but respectfully requests that the Representatives in the Senate and Congress from this State will oppose any change in the present administration of the Surgeon-General's Library, and that they will use every justifiable means to preserve and protect that library under the same direction that has made it so peculiarly valuable and instructive to the entire medical profession of the United States.

Prof. W. H. Flower, F.R.S., has been awarded one of the royal medals of the Royal Society, of the value of fifty guineas, for his contributions to the morphology and classification of the mammalia, and to anthropology.

Guiteau's Brain.—Dr. E. C. Spitzka, at a late meeting of the New York Neurological Society, of which he is President, stated that the specimens of Guiteau's brain which he had examined showed all the signs of disease described in the official report published in The Medical News. "He intimated that Dr. Dana's report in the *Medical Record* was 'fixed' to make it correspond with the editorial views expressed in that journal."

Gift to the Pacific Medical School.—The dedicatory exercises of the new Cooper Medical College building were held in San Francisco on November 4th. The building was erected at a cost of one hundred thousand dollars, at the expense of Dr. L. C. Lane, and by him dedicated to the memory of his uncle, the late Dr. Elias Samuel Cooper, one of the early pioneers of California. The Pacific Medical College, which is reincorporated under the title of the Cooper Medical Faculty, retains its faculty unchanged.

Prosecution of Illegal Practitioners.—For practising medicine without complying with the laws of the State, several persons were arraigned in the New York city Police Court, last week, on complaint of Dr. David Webster, President of the County Medical Society. Eliso F. Marini, of No. 143 Prince Street, had no diploma. He was convicted of the same offence in Special Sessions on October 27th, and fined $50. He was held on the present charge in $500 bail. John F. A. Clausnitzer was accused of practising under the name of John C. Adams, at No. 29 Bleecker Street. He had a German diploma. He said that he could not afford to purchase a new sign, and so allowed the sign of Dr. Adams, who formerly occupied the premises, to remain where he found it. He was held in $300 bail, and at once deposited the money. George H. Schwab, of No. 59 Bond Street, had no diploma. He was held in $300. William H. Fuller, of No. 24 Varick Street, had a bogus diploma issued in Philadelphia, and was in consequence held in $300 bail. Francis E. Ruhenberg, a Swede, of No. 80 Christopher Street, advertised irregularly to cure diseases of the limbs. He was held in $300 bail.

Penalties for "Skin" Plumbing.—Dr. Henry D. Nicoll, of No. 7 West Thirty-ninth Street, New York, deserves the thanks of the community for his energy and courage in bringing to justice James McLoughlin, a plumber of No. 157 West Forty-first Street. Dr. Nicoll recently brought suit against McLoughlin in the Court of Common Pleas to recover damages for the "fraud and deceit" of the latter. It appeared upon the trial, from the testimony of Dr. Nicoll, Gen. F. T. Locke, and other reputable witnesses that Dr. Nicoll, in 1878, requested McLoughlin to examine the plumbing in his house and to report what alterations and repairs were necessary to put it in perfect condition. McLoughlin gave his estimate in writing with some detail, and the doctor instructed him to proceed according to the estimate.

In due time the plumber reported that every detail had been complied with, and his bill was paid in full.

Subsequently, from time to time, the doctor detected unpleasant odors pervading his house, which he attributed to sewer gas, and he called upon McLoughlin to put a fresh air inlet inside the main trap on the main drain. McLoughlin made objections, and thereupon the doctor called upon Messrs. Locke & Munroe to make an examination of the plumbing, and their workmen uncovered work which would seem fully to sustain the charge of "fraud and deceit." The house drain, which was of cast iron, and buried in the ground, had few joints caulked; the lengths of pipe were so laid that some pitched towards the house and some towards the sewer; it was impossible for water to run fully out of the drain, except at the open joints into the ground; two lengths of pipe were used which had holes drilled into them, and the refrigerator waste was simply dropped into a hole drilled into the drain pipe; in one place, two spiggot ends were simply laid together, surrounded by a piece of larger pipe, into the intervening space of which some cement had been thrown; and finally, no main trap was placed on the main drain, although the defendant had repeatedly informed the plaintiff that one was there.

The jury promptly rendered a verdict in favor of the doctor for $125.

Dr. Nicoll has rendered a valuable service, not only to the householders, but to honest plumbers by making an example of this man and establishing a healthy precedent. If this were more frequently done by persons who suffer by dishonest work of plumbers, there would be less bad work done and fewer occasions to inveigh against the craft.

We have noticed this case at length, in accordance with our policy to expose dangerous work whenever brought to our attention.—*Sanitary Engineer*, November 16, 1882.

Amsterdam Exhibition, 1883. — The Executive Committee of the International, Colonial, and Export Trade Exhibition to be held at Amsterdam, May to October, 1883, has resolved, at the suggestion of the Dutch Association for the Advancement of Medical Science, to add a section for colonial medicine, to be opened simultaneously with the colonial exhibition. The aim of this section will be to promote a knowledge of the sanitary and medical conditions in the colonies. The programme of the section divides its exhibit into three classes. The first class will embrace everything relating to the ministration of public health, such as water supplies, adulteration of food, intoxicating drinks, schools, prisons, cemeteries, sewers, cesspools, trades detrimental to health, measures against endemic, epidemic, and contagious diseases, prostitution, vaccination, vital statistics, etc. The second class will be devoted to data connected with the organization of the medical science in the colonies, in regard to which the several colonial governments follow different systems, and it is only by a careful comparative study of them that a correct judgment can be formed as to the best system to be adopted. The third class will have for its scope the attendance to and transport of the sick and

wounded, and will include models, plans, and drawings of hospitals, lunatic asylums, leprosies, etc., means of transport by land and water, medical literature, and native drugs. Objects of a commercial or not strictly scientific character will not be admitted into the section.

SMALLPOX IN SOUTH AMERICA.—This disease is prevailing in many parts of the country. It has been spreading among the population of Rio de Janeiro for many weeks back, but the health authorities have only recently declared the disease epidemic, and adopted active measures to restrain it. Vaccination has been made compulsory, but there is much difficulty experienced in obtaining good vaccine virus. The reports show 67 deaths from smallpox in the city during the week ending October 28th. At Desterro, St. Catharina Island, the disease is disappearing having apparently exhausted all the susceptible material. During the past nine months in this small municipality, having a population of about 8000, there have been 141 deaths from smallpox. About 10 per cent. of the cases were fatal. At Blumenan, a small German colony in St. Catharina province, of 27 persons who were seized with the disease, only 4 survived the attack.

CONTAGIOUS DISEASES IN NEW YORK CITY.—Dr. Janes, Assistant Sanitary Superintendent, has prepared the following table of contagious diseases reported at the Sanitary Bureau in the last three months, compared with the reports for the same months in 1881:

1881.	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-Spinal Meningts.	Measles.	Diphtheria.	Smallpox.
September	2	132	270	26	37	302	48
October	0	138	425	17	48	390	53
November	27	129	607	18	183	398	74
Total	29	399	1,302	61	268	1,090	175
1882.							
September	1	117	88	20	21	116	2
October	0	147	110	12	40	153	3
November	0	68	124	12	60	185	3
Total	1	332	321	44	121	454	8

DIPHTHERIA IN PHILADELPHIA.—There has been no appreciable change in the mortality from diphtheria in Philadelphia during the week ending December 9th. The mortality is still excessive. The number of deaths for the week was 41, or one less than the number reported in the week preceding.

Deaths were reported in 19 out of 31 wards; and in 7 of these no deaths had been reported in the previous week. On the other hand, we find that in 8 wards reporting deaths from this cause in the week ending December 2d, not a death is reported for the week ending December 9th. These facts seem to indicate that strictly local influences are not the chief factors concerned in the propagation of the disease.

There were only 3 deaths in Frankford (where the disease has been most prevalent), against 7 in the preceding week; 5 in the 24th Ward, the same as last week; 4 in the 25th Ward, against 2 last week; 4 in the 16th Ward, where there were none last week; and 3 in the 15th Ward, where there were also none last week.

Nearly all the deaths were of children under 10 yeas of age. Under 10 years there were 37 deaths; between 10 and 15 years, 2 deaths; between 20 and 30, 1 death; and between 30 and 40, 1 death.

Cases of the disease are reported in 28 wards, the total number being 155, or 10 less than last week. The 3d, 5th, and 9th Wards reported no cases during the week. The greatest number of cases were reported in the 1st, 19th, 23d, 25th, 27th, and 29th Wards.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending December 2, 1882, indicate that neuralgia has greatly increased, that cholera morbus has considerably increased, that diphtheria, erysipelas, and whooping-cough have increased, that intermittent fever has greatly decreased, and that typho-malarial fever has considerably decreased in area of prevalence.

Compared with the average for the month of November in the preceding five years, neuralgia and diarrhœa were more prevalent, and intermittent fever, pneumonia, whooping-cough, consumption, and diphtheria less prevalent during the month of November, 1882.

For the month of November, 1882, compared with the average of corresponding months in the preceding three years, the temperature was higher, the absolute and relative humidity more, and the day and night ozone less.

Including reports by regular observers and by others, diphtheria was reported present during the week ending December 2 and since, at twenty-six places, scarlet fever at fourteen places, and measles at five places. Smallpox was reported at Lyons, Ionia Co., December 1.

Sanitary inspectors report two cases of measles found among immigrants arriving at Detroit, during the week ending December 2.

OBITUARY NOTICE.—DIED on November 17th, PROF. GEORGE GULLIVER, F.R.S., F.R.C.S. Prof. Gulliver was born on the 4th of June, 1804, and received his medical education at St. Bartholomew's Hospital. In 1861 he was elected Hunterian professor of anatomy and physiology, and is best known by his researches on the chyle, blood, and lymph.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 4 TO DECEMBER 11, 1882.

MOORE, JOHN, *Major and Surgeon.*—The extension of leave of absence granted Nov. 3, 1882, is still further extended one month.—*Par. 4, S. O. 283, A.G.O.*, December 6, 1882.

CRAMPTON, LOUIS W., *Captain and Assistant Surgeon.*—Granted four months leave of absence.—*S. O., 280, A. O., G. December 2*, 1882.

GOMGAS, W. C., *Assistant Surgeon.*—Relieved from duty at Fort Brown, Texas, and will accompany the 19th Infantry to Forts Clark and Duncan, Texas. Their future stations will be announced.—*S.O. 130, Department of Texas, November 27*, 1882.

MADDOX, T. F. C., *Assistant Surgeon.*—Relieved from duty at Fort Brown, Texas, and will accompany the 19th Infantry to Forts Clark and Duncan, Texas. Their future stations will be announced.—*S. O. 130, Department of Texas, November 27*, 1882.

REED, WALTER, *Captain and Assistant Surgeon.*—Assigned to duty as attending surgeon headquarters Department of the Platte.—*Par. 2, S.O. 127, Department of the Platte, December 4*, 1882.

TAYLOR, MARCUS E., *Captain and Assistant Surgeon.*—The leave of absence granted Aug. 14, 1882, is extended two months.—*Par. 6, S.O. 283, A.G O., December 6*, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked,

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLI. SATURDAY, DECEMBER 23, 1882. NO. 26.

ORIGINAL LECTURES.

DIPHTHERIA AND ITS TREATMENT,

BASED ON RECENT INVESTIGATIONS.

A clinical lecture delivered at the Philadelphia Hospital, December 6, 1882,

BY J. M. KEATING, M.D.,

ONE OF THE ATTENDING OBSTETRICIANS TO THE PHILADELPHIA HOSPITAL, AND LECTURER ON THE DISEASES OF WOMEN AND CHILDREN, ETC.

(Reported by WILLIAM H. MORRISON, M.D.)

AT the last lecture, as you may remember, I spoke of some of the acute varieties of diseases of the throat in children. I propose to-day to make some remarks in reference to the clinical aspect of the subject of diphtheria, based upon the experiments upon animals and observations in the practice of some of us who are interested in this subject at the present time. At my last lecture, I pointed out to you the differential diagnosis of the various forms of acute laryngeal disease in children; these were spasmodic laryngitis, or false croup, one of the most important and most frequent of these diseases; a combination, as it were, of simple acute laryngitis, and laryngismus stridulus, and pseudo-membranous laryngitis, or true croup. I showed you at that time how pseudo-membranous laryngitis differed in its symptoms from spasmodic laryngitis, especially in this fact, that in the former there was present a false membrane, which, by causing mechanical obstruction and interfering with respiration, gives rise to other symptoms not found in the latter disease. At the present time the most important subject which can come before us is the difference, if there be any, between pseudo-membranous laryngitis and the disease known as diphtheria, which is also characterized by a membranous deposit upon the mucous membrane of the throat, fauces, and nares, sometimes extending into the larynx and trachea, giving rise to various symptoms, many of which are due to the presence of membrane obstructing the tracheal opening. I believe that the former affection is always associated with the laryngeal and tracheal forms of the latter, usually presenting its most marked symptom, but that it can occur by itself as the result of cold or irritation as well as its analogue croupous pneumonia. I told you that the mucous membrane of the pharynx differs anatomically from that of the larynx and trachea, and that, therefore, irritation and inflammation of these two parts give rise to entirely different sets of symptoms. The mucous membrane of the pharynx is covered by a thick, almost impenetrable layer of squamous epithelium. This is placed on a loosely attached submucous tissue which is capable of being greatly distended by infiltration and by blood, so that inflammation of this membrane will cause congestion and œdema to take place below the epithelium, and may give rise, at the same time, to the appearance of but slight congestion of its surface when the disturbance beneath is very great. The mucous membrane of the larynx and trachea is covered by the ciliated form of columnar epithelium. This epithelium is placed upon a very dense basement membrane, and has behind it thick inelastic cartilage. Inflammation at this point will be rapidly followed by the appearance of fibroplastic lymph upon the surface, lifting the easily detached epithelium, and giving rise to layers of membrane; these deposits may form rapidly, and quickly occlude the larynx or trachea.

About the year 1868, Oertel found in the blood of persons suffering from diphtheria, a form of micrococcus, a peculiar granular matter. A full account of this subject will be found in Ziemssen's *Encyclopedia*, and in the supplement of the report of the National Board of Health for last year, but as this latter is not accessible to many of you, I go into this subject somewhat in detail. Many observers subsequently found that this peculiar matter, which occasionally took the form of little black granules, and again appeared in masses, was present in all cases of diphtheria, and in proportion to the severity of the attack. The presence of these micrococci has been positively substantiated, not only in diphtheria, but also in almost all of the so-called zymotic affections.

Those of you who attended the lectures in this hospital last spring, will remember the severe epidemic of measles in the children's ward at that time. The children died very rapidly, and it was impossible at first to account for their rapid death. Dr. Formad and myself made a number of observations on the blood of these cases, and it was found that as soon as the malignant symptoms presented themselves, the blood of these children was filled with micrococci. There were immense numbers of these; not only did they float in the liquid in masses, looking like frog-spawn on a pond, but they also penetrated the white corpuscles, and increased in numbers to such an extent as to cause the globule to burst in many cases, although the red corpuscles were not attacked. The severity of the symptoms was found to be in proportion to the number of the micrococci. Whether this was due to the micrococci, or whether the severity of the symptoms and the presence of the micrococci were simply coincident, I am not prepared to positively assert; we do know, however, that where this material was found in the blood, those children were in danger of death from the malignancy of the disease and from exhaustion, and also from heart clot. It has been found by many observers that these micrococci exist not only in the part where they are introduced, as in the blood of the throat in diphtheria, but they are also carried to the finest capillaries in the body, multiplying with great rapidity. They have been found in the marrow of the bones, and in the minute vessels of the kidney, clogging them, causing mechanical congestion, and finally either causing or attending a distinct diphtheritic process in the kidney analogous to that going on at the point of invasion. We observed in this epidemic of measles that the children would often exhibit extraordinary symptoms connected with the respiration. A child would be doing well, when suddenly it would seem to have difficulty in breathing. There would probably be, as is usual in such cases, a certain amount of pulmonary congestion and some catarrhal pneumonia, but at the same time the severity of the pulmonary lesions would not be in proportion to the disturbance of respiration which was present. The gasping spells were shown to be due to the fact that insufficient blood passed through the lungs to be oxygenated. There was no trouble about getting air into the lungs, but the trouble was to get venous blood from the right ventricle to travel into the lung. There was some obstruction. After death it was found to be due

to a white clot which had evidently formed some time before, and on microscopical examination this clot would be found to be filled with micrococci.

This is an extremely interesting subject, and those who have studied these conditions under the microscope have found that it was not only an interesting subject in itself, but one of great practical importance. I wish, to-day, in view of the present epidemic, to speak to you of some of the practical points which this matter brings before us. It is also of great importance in connection with treatment. From the experiments of Doctors Wood and Formad—experiments which have been verified and which are still going on—it has been proven that the initial lesion in cases of diphtheria is in the throat. It has for many years been a question whether diphtheria was like typhoid fever, scarlet fever, and other affections where the blood was first affected by the poison of the disease and a period of incubation resulted, and that this was finally followed by the peculiar characteristics of the disease, that is to say, the appearance of membrane in the throat in diphtheria, the scarlatinous rash in scarlet fever, and of rose-colored spots and so on in typhoid fever. These experiments have, I think, conclusively shown that diphtheria is a contagious disease, contagious from the membrane which is present, and that this contagious principle can be inoculated, can be transmitted directly to the individual, and also that it first appears upon that part where the inoculation has been performed independent of any lengthy period of incubation. If the membrane from a case of diphtheria is inoculated upon any part, it is at this point where the first manifestations will occur, while the constitutional disturbance will be of a secondary character. In all cases of diphtheria examination of the blood under the microscope shows the presence of these micrococci, and also that they first appear at the point of greatest intensity, or otherwise invasion, and thence make their way through the circulation to other parts of the body. In the primary stage they are found in the membrane, and in the epithelium on the surface of the tongue, mouth, and throat, and from these parts they rapidly penetrate into the submucous tissue, and finally are taken up by the bloodvessels and lymphatics, and develop with great intensity. These experimenters have declared that their observations have shown that diphtheria need not be a so-called specific affection; that in rabbits any inflammation of the mucous membrane of the throat may produce symptoms analogous to those of diphtheria with the presence of micrococci; they, at the same time, tell us that these micrococci are always found to a greater or less extent upon the mucous membrane of the throat and epithelial débris on the tongue of those in health, but not necessarily in the air which we breathe, unless it be foul. I can scarcely see my way clear to go as far as this, but believe that in a dormant state they may have their peculiar home in the epithelial detritus which is found in the mouth, and are deposited there and vivified by foul air from cesspool gases, and then if any irritation or denudation of the mucous membrane takes place from cold, from sore throat of any kind, especially in children, in whom there is a special vulnerability, these micrococci suddenly develop with great intensity and rapidly produce the malignancy which we see in the secondary manifestations of the diseases; their habitat being foul air, whence they are derived.

Let me here refer to the great error that is frequently made of calling one disease after another, *e. g.*, calling a sore throat *diphtheritic* because it has a membrane upon it, or a disease *typhoid* because it resembles typhus, or a rash *scarlatinous* because it resembles that of scarlet fever. The result of this is that people who do not know what these terms mean imagine that they have these various diseases, and you will be often told that a person has diphtheria every fall, because some one has called it a diphtheritic sore throat, or that a child has had scarlet fever a dozen times, when in reality it has suffered from attacks of erythema, or a person has been *threatened* with a disease of this sort! This use of terms is objectionable to those who are trying to attain a scientific accuracy in regard to the diagnosis and treatment of these diseases, and raises doubts in the popular mind.

Diphtheria, though possibly a disease which may occur more than once, carries with it a certain individuality of its own. The poison, whether it be micrococci or not, requires something which will increase its activity, and will, under ordinary circumstances, lie dormant. It may remain for some time in a pure atmosphere, and not develop the disease; but if it is exposed to sewer gas or to bad ventilation, this growth, this cause of diphtheria, is vivified, producing usually the primary affection of the throat, and eventually involving the general system; or the contagion may be direct from one individual to another. Experiments have proved this, in the fact that the most virulent of micrococci, that of erysipelas, if exposed to air which is pure, or, in other words, to oxygen, loses its intensity, and when inoculated shows its enfeebled powers.

Is this disease identical with true croup or pseudo-membranous laryngitis? In certain cases it may be. Oertel, in Ziemssen's *Encyclopedia*, describes two forms of the disease—the catarrhal and the croupous. The first is the result of catarrhal inflammation, which he supposes to be due to the action of a small amount of poison on the throat membrane, giving rise to a mild form of catarrh. This catarrh may come from any irritation. It is no more due to the specific action of diphtheria poison than it is due to the inhalation of fumes of nitric acid or of any other irritating substance. It is simply a superficial catarrh similar to a catarrh in the head. Thus, if you inhale the dust of ipecac, you will set up as severe a catarrh as if you go out into the night air without your hat. Then again, we have that which is described as the croupous form, which may also be dependent upon a specific blood poison, and has attending it a fibrinous exudation, with rapid failure of the system following the introduction of the poison, producing adynamia. We know that ordinary causes, presumably not dependent on diphtheritic poison, may produce laryngitis with the deposit of membrane. Children with this disease present certain appearances and symptoms which are not like those that are seen in the early stages of diphtheria. Those of you who have seen the two affections side by side will, I think, agree with me in saying that they are not identical in appearance. In a case of pseudo-membranous laryngitis, the child may have deposits in the trachea which may so obstruct the tracheal opening as to cause great interference with respiration, yet until the fatal signs come on, the symptoms are not identical with those of diphtheria; there is not that profound prostration, that swelling about the neck and angle of the jaw which shows great involvement of the lymphatics, with enlargement of the glands. In the former disease, the lymphatics are not at all affected in the early stage; and, again, when I tell you that more or less membranous deposit may be readily caused by the least irritation, you can easily see that it is not necessary to always account for its presence by a violent poison acting upon its surface. In the most severe forms of diphtheria the disease, originating in the pharynx, has a tendency to extend into the nasal cavity. In some cases, in adults, the larynx escapes almost entirely, or again the primary lesion may be in the trachea. Diphtheria is not limited to young children, but is quite common between the ages of 10 and

age of 15 years, and is as fatal at these ages as it is at the same number of months. Pseudo-membranous laryngitis, on the other hand, is quite rare after the age of five years.

It was not my intention to-day to point out these differences. There are some authorities who believe that the two diseases are identical, while others take the opposite view. For my own part, I take a middle course. I think that diphtheria may cause croup, as may any other irritant; they may both be present in the same case, and probably are in children, and one may be the exciting cause of the other. There is in children a tendency for all catarrhal conditions of the mucous membrane of the air-passages to exist, and I think we may look upon pseudo-membranous laryngitis as a constant symptom of diphtheria at this age; still, we know that diphtheria can occur in adults without pseudo-membranous laryngitis being present, and that the latter can take place in children with abundant deposits, but unaccompanied by lymphatic involvement and adynamia, unless septicæmia should set in from putridity of the false membrane.

My purpose to-day is to make some remarks in connection with treatment. In treating those cases of measles to which I have alluded, we used large doses of alcohol, in the form of whiskey, and we found that it diminished the intensity of the malignant symptoms, and, at the same time, lessened the number of micrococci in the blood. We examined the blood and determined the number of micrococci present; the child was then placed upon full doses of whiskey, and examination of the blood then showed that the number of the micrococci had sensibly diminished, and that they seemed paralyzed in their development. They did not have that tendency to duplication which they had before shown. These investigations were continued by Mr. Oliver Hopkinson, at my suggestion, and he has obtained some extremely interesting results. I might as well state here that we are not able to distinguish under the microscope the different varieties of micrococci, as they present exactly the same appearance; still we may say that the micrococcus of diphtheria may differ from that of erysipelas or of measles, but that, though the virulence differs in each case, they are all affected, more or less, in their development by the administration of this same drug. Dr. J. G. Richardson very happily illustrated this point before the Philadelphia County Medical Society. He said that although these growths appeared exactly the same under the microscope, yet they could not be considered on that account as being the same; the spermatozoa of a colored man and those of a white man may look exactly alike under the microscope, yet we know that the spermatozoa of one would not produce the other, and we can illustrate it further by adding that they would succumb alike to the same toxic agents.

From the experiments to which I have alluded, we may conclude that any thing that will kill or retard the growth of these micrococci has the effect either of so paralyzing them as to prevent them from producing the malignant symptoms, or else of placing the blood of the individual in such a condition as to prevent the growth of the micrococcus. We find that the fatality of the disease accords with the presence of micrococci, and that if we can destroy the latter, we can diminish the former. As I have already said, alcohol has been found to have a curative effect. The same thing has been observed in regard to corrosive sublimate. The effect of this latter remedy was marked in the experiments of Mr. Hopkinson. He also found that chlorine and chlorine compounds exercised an even more pronounced effect. These experiments are very important. It has been known for many years that the various compounds of chlorine, as chlorate of potassium, tincture of the chloride of iron, chloride of sodium, corrosive chloride of mercury, calomel and soda, chloride of lime, hydrochloric acid, and many others, had a curative or antidotal effect in these malignant conditions, or in what has been termed septicæmia. I believe that in all cases of this kind we have two different conditions; one is this tendency to malignancy accompanying the increased growth of these micrococci, which may be prevented by the use of alcohol, chlorine, and the like; the other is a septicæmia, associated with the other, resulting from a condition which is entirely different from the former, and where we have under the microscope micrococci and rod-like bacteria, due to decomposition and putridity. These latter produce symptoms of septicæmia, which are associated with those produced by the specific poison. We know that carbolic acid prevents the development of the rod-like bacteria, but it has been stated that this drug has no effect on the micrococcus. We find, by experiments on animals, that if a certain number be poisoned with the poison of erysipelas, diphtheria, they will die; while if others, poisoned in the same way, at the same time receive injections of chlorine water, they will live; and when we find that these experiments are made day after day with the same result, the logical conclusion to which we arrive at present is that, to some extent—how great we can not now say—chlorine and its compounds are antidotal to these diseases.

To review this subject, we have noted that micrococci are associated with diphtheria, that inoculation of these matters will produce the disease, that they are found at that point where the diphtheritic process is found in the greatest intensity, and lastly that certain solutions will kill or paralyze these micrococci, and prevent their growth. Let us now study a form of treatment based upon these views. We divide our treatment into the constitutional and the local. For the former we rely on hourly administration of liquid food in small quantities, such as beef-juice, wine-whey, milk, frozen beef-tea, or ice cream, albumen water, or peptonized food by the bowel; also stimulants, fresh vegetable acids, koumiss; and drugs, as quinine, strychnine, etc. We must pay a special attention to the circulation, as *heart death* may occur in two ways: first, syncope from fatty degeneration of the cardiac muscle; and sudden death, occurring even during convalescence. This requires absolute quiet in bed, digitalis, and strychnine. Second, heart clot, which is most insidious in its formation, and which, I believe, may be due to the rapidly accumulating micrococci, which can possibly be prevented by free stimulation, chlorine, and the chlorides, both internally and by inhalation, and *fresh air*. The local treatment has three objects in view, namely, the destruction of the diphtheritic poison or germ; the prevention of putridity of the false membrane, and the allaying of the inflammation of the mucous membrane itself. It is necessary for the latter indication to keep the air moist; either by the slaking of lime, to which may be added the vapor of the chloride of lime; vaporizing the throat by means of an atomizer, to which may be added opium or hyoscyamus in some form, and applying moisture to the throat without, either with a wet cravat covered with oil silk or a light poultice surrounding the neck. For the treatment of diphtheria I would recommend astringent local applications, as, for instance, the perchloride of iron, believing that the disease is originally a local affection. I would not waste time in using carbolic acid alone, for I believe that in such cases, at the onset, it is of questionable use. An excellent local application, which should be used daily by the physician, applied thoroughly to the whole mucous membrane of the fauces, is:

℞.—Tinct. iodin., ... f℥j.
Acid. carbol., ... gr. x.
Tinct. ferri perchlor., . . . f℥j.
Glycerinæ, ... ad. f℥j.

The use of the carbolic acid being to prevent decomposition of the membrane. Between times I have used a gargle of salicylic acid and claret. Common salt, I have no doubt, would be of great service, and probably the popular opinion so favorable to chloride of sodium and sulphur will be found to be based upon a very solid foundation. You know that calomel and soda, in small and frequently repeated doses, placed dry upon the tongue, has many upholders, and probably its local action is a very important one, as much so as the constitutional one in rendering the membrane aplastic. Labarraque's solution would be certainly indicated, and possibly the very valuable Platt's chlorides would serve the same good purpose.

But remember the importance of early local treatment with strong astringent applications, in proportion to the severity of the attack. The presence of false membrane will be followed by *two* evil results: mechanical obstruction, which will cause death; and its decomposition, which will produce septicæmia. These are both totally independent of the disease itself, and may be classed as complications, though in reality they are taken as symptoms.

Early tracheotomy may, but most frequently does not, prevent the former; quinine, iron, and food, with local antiseptics may ward off the latter, provided the hidden and unapproachable recesses of the nasal cavities do not render local treatment impossible, and constitutional supporting treatment unavailing. I would then give brandy in gradually increasing doses, giving it in proportion to the age of the patient and his condition, and at the same time administer chlorine in some of its forms, as tincture of the chloride of iron, or chlorine water (f℥j or less, three or four times daily, and increasing dose), which has been advocated for a long time by Dr. J. L. Ludlow, of this city, and which has been used by him with great success. I would use the vapor of chlorine in the room.

℞.—Sodium chloride, ... 7½ parts.
Bin-oxide of manganese, . . 6 "
Add strong sulphuric acid, . . q. s. (Edis.)

Dr. William Pepper recently reported a case of very severe diphtheria cured by the use of large doses of corrosive sublimate. Chlorate of sodium has been used with success by Dr. Ludlow, and is more soluble than the chlorate of potassium, and therefore more quickly enters the system. It can be given in eight or ten-grain doses every three or four hours. Here you see that the experiments in the laboratory have a practical value. They give us something tangible to work on. We find that chlorine does good; we use it and its compounds locally, freely, at first upon the mucous membrane itself, because we know that this is the initial point at which the disease originates. We try to kill or paralyze this micrococcus before it enters the circulation, for after it passes into the blood it is difficult to influence it. A curious confirmation in regard to this is found in the article by Prof. Oertel. He suggests that when the throat is very much involved, when the swelling in the connective tissue is great, when there is marked stiffness of the muscles of deglutition and great redness and the appearance of membrane on the throat, a hot poultice should be applied to the outside, for the purpose of encouraging suppuration, believing that by increasing the afflux of blood to the submucous tissue of the throat, and increasing in that way the tendency to suppuration, there is a barrier erected to throw off this poison and prevent its absorption. We cause a layer of pus to develop, and the entrance of these micrococci can be then prevented.

If the poison of diphtheria, the micrococcus of that disease, is found constantly with the epithelial detritus upon the tongue and throat and other mucous membranes, and needs but foul air, absence of oxygen, debilitated constitution, and an abrasion to awaken it from its downcast condition, why can not auto-infection take place in many cases apart from exposure to a contagium of the same kind from without? Could not membranous deposit from simple catarrh, or pseudo-membranous laryngitis with decomposition of the membrane be the exciting cause, and diphtheria be engrafted by an exciting cause from *within* as well as by bad sewerage from a faulty closet, or infected drinking water? I believe that septic or decomposing matters will rapidly vitalize the diphtheritic micrococcus in the throat and fauces, as well as in the uterus and vagina, and I also believe that apart from that the micrococcus will develop symptoms of malignancy independent of septicæmia alone. In the former iron, quinine, alcohol, and chlorine compounds should be used largely internally, and carbolic acid as an application, with a free supply of oxygen and nourishment; in the latter cases, alcohol, nourishment, fresh air, the chlorine compounds, and vegetable acids are your sheet-anchor —with local astringents.

Although these points which I have brought before you to-day are the results of theory, I should not have presented them if they had not been confirmed by practice. We know that these various compounds of chlorine have been used with good results, and we simply endeavor to connect the theory and the practice, to show why these remedies have proven of benefit.

ORIGINAL ARTICLES.

CLINICAL REMARKS ON SEVERAL CASES OF PANCREATIC DISEASE.

BY WILLIAM PEPPER, M.D., LL.D.,
PROVOST AND PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA.

(Concluded from page 681.)

TUMORS and degenerations of the glandular tissue of the pancreas are the lesions of this organ most frequently demonstrated at autopsies. Indeed, judging from the great frequency with which I have met with both of these lesions, they must be of really common occurrence. Cirrhosis, or fatty degeneration, of the pancreas will often be found as an associated lesion in cases of similar disease of the liver or kidneys; cancer not rarely attacks the pancreas, even in early life. The youngest patient in whom I have seen it was a boy of 12½ years, who, apparently in consequence of an injury to the abdomen, had a rapidly growing encephaloid cancer of the pancreas, involving also the left kidney and the transverse colon. The vomiting in this case was the prominent symptom, no nutriment being retained; and I am led to remark this because I have lately seen several times the statement that an absence of gastric symptoms is a point in favor of implication of the pancreas in studying cases of obscure abdominal disease. My own experience would certainly not corroborate this statement; since I have too often noted vomiting, even of frequent and uncontrollable character, in pancreatic disease, to allow me to consider its absence,

though it undoubtedly is absent in some cases, of any diagnostic value. But frequent as these forms of pancreatic disease are, it seems to me that simple catarrhal inflammation must be of vastly more common occurrence, although, for obvious reasons, it is difficult in many instances to determine its existence. It cannot scarcely be otherwise when we come to consider the extreme frequency of catarrhal inflammation of the duodenum and bile-ducts, and the close anatomical and physiological relations of the pancreatic ducts with these parts. There are indeed on record a sufficient number of fatal cases of chronic pancreatic catarrh, with the fullest development of secondary lesions of the gland, to show that even the worst forms of this disease are not extremely rare. The symptoms in such cases (of which a most interesting unpublished one, communicated to me by my friend, Dr. R. G. Curtin,[1] might serve as a type) are dull, deep-seated pain in the region of the pancreas, with occasional attacks of sharp, or even severe colicky pain; gastric derangement; intestinal indigestion; diarrhœa, with slippery stools, or with free oil in the stools; emaciation and anæmia; occasionally diabetes or œdema. It is probable that the colicky attacks are at least occasionally due to the passage of small concretions through the pancreatic duct into the duodenum. In milder forms of catarrh, however, the symptoms must be much less severe, and I have no doubt that many cases of pancreatic catarrh are overlooked or are regarded as cases of gastro-duodenal or duodeno-hepatic catarrh. Such cases we should naturally expect to be attended with a clean, moist tongue, epigastric distress, occasional sharp abdominal pain, intestinal flatulence, with tendency to diarrhœa, and absence of jaundice or of enlargement of the liver. Careful examination would probably show an undue proportion of unaltered fat in the stools; and when the swelling of the mucous membrane is sufficient to close the main duct there may be temporary diabetes.

Pancreatic catarrh may occur in an acute form, or it may run a chronic course. In the latter case it undoubtedly constitutes the lesion and essential cause of a certain number of those troublesome cases attended with chronic intestinal dyspepsia, persistent leanness despite correct regimen and careful feeding, and a tendency to looseness of the bowels on the slightest provocation. It has occurred to me also that chronic pancreatic catarrh is at the root of some of the cases of mild intermittent diabetes, which are not rarely met with. I am now engaged in studying two cases where, with the occasional increase in percentage of glucose in the urine, there is temporary loss of weight, and intestinal dyspepsia, with tendency to looseness of bowels. I am anxious to determine if at such times there is an undue amount of unaltered fat in the stools.

We are very familiar with the close and reciprocal relations between catarrhal inflammation and calculous affections of various parts, and it is not only in cases of catarrh of indeterminate location that the possibility of pancreatic implication should be carefully considered, but also in that large and often obscure class of cases where repeated attacks occur, of severe colicky pain about the epigastrium, without jaundice, and where no gall-stones are discoverable in the stools. The following case, of very recent occurrence, may be cited in illustration:

CASE III.—Mr. ——, 45 years of age, a man with large responsibilities, but who took care of himself and was rather fond of good living, had his first spell of colic while abroad. It came on suddenly, with intense pain in the epigastrium, vomiting, coldness of the extremities, and a feeling of collapse. The attack was very severe and lasted several hours; it was followed by weakness, but by no jaundice or discoloration of the urine. A second similar attack occurred in 6 months, a third about 4 months later; and thereafter they occurred for a number of months with varying severity, and at gradually lessening intervals, until he had an attack every two or three days. The pain in all cases was of the same character—acute, sharp, cutting, or tearing; and in the same locality—deep-seated in the epigastrium and through to the back. Nausea and vomiting often attended, and there was always a haggard, pinched expression of face, with cold extremities. At no time was there the least jaundice or discoloration of the urine, and the feces were not pale. The bowels were usually constipated; no free oil was ever noted in the stools; and several careful examinations of the feces for calculi failed to discover any. Careful palpation of the abdomen failed to reveal any tumor or enlargement of any organ, and there was undue tenderness only at one point corresponding to the position of the head of the pancreas, and developed only by deep pressure. There were marked anæmia and loss of flesh, and the complexion assumed an earthy, slightly sallow, cachectic look. The digestive power was much impaired, and the amount of food that could be taken was of necessity gradually reduced, until the diet consisted of small quantities of butter-milk, skim-milk, or broth, at short intervals. Under a course of this diet, with strict rest in bed and the internal use of a pill of nitrate of silver and opium, and subsequently of quinine, belladonna, and arsenic, gradual improvement occurred, and for nearly five weeks there was no spell of pain, while the power of taking food improved decidedly though slowly, and there was a gain in general condition. Without adequate cause, however, there was a return of severe spells of pain, occurring at intervals of one, two, or three days, and at varying hours, and without any fixed relation to the indigestion of food. The attacks lasted over a period of about two weeks, toward the close of which time the pain was very severe and almost constant, and scarcely any food could be taken; the loss of flesh during this time was remarkably rapid. After reaching a state of great intensity, there was a quite sudden decrease and disappearance of pain; and in a few days solid food could be taken. The patient left bed, and was soon able to go out and to gradually return to business. He continued to improve, though digestion

[1] It formed the basis of a paper read by Dr. Curtin before the Pennsylvania State Medical Society, in 1882, at Lancaster.

remained somewhat weak and sensitive, for nine or ten months, when a single isolated attack of great severity again occurred in the summer of 1882, while he was abroad.

All of the attacks in this interesting case were of similar character, and the differential diagnosis seems to possess no little difficulty. In many respects the case resembled one of gastralgia, and in default of my ability to actually prove it otherwise, this view may be entertained by some. There are various points, however, on which a different opinion may be based. The extreme suddenness and violence of the first attacks, their isolated and widely separated occurrence, and that too under unusually favorable hygienic conditions, which would have rendered the onset of gastralgia at that time unlikely; the absence of regularity as to time of day, or as to relation to the hours of taking food; the obstinate recurrence of the spells despite careful diet and treatment; the sudden reappearance of a violent attack after four weeks' absence, while the patient still continued in bed and upon careful diet; the abrupt cessation just when apparently most violent and continuous; the sudden reappearance, after nine or ten month's freedom, of a single isolated attack; the absence of gastric symptoms in the intervals of the attacks; all of these point rather in the direction of a calculous disorder than of gastralgia. It is certain that if with these attacks there had been recurring jaundice, and if the pain had been rather higher and more to the right, the character of the spells and the course of the case would have made the attending physician, Dr. Dunton, and myself confidently suspect the presence of numerous gall-stones. Indeed, it cannot be regarded as impossible for such to have been the case. I have several times seen repeated attacks of hepatic colic of marked severity where no jaundice followed, and no gall-stones were discoverable in the stools. Such cases have depended either on the passage of fine biliary gravel too small to occlude the duct or to be found in the stools, or on the presence of a single large rounded calculus incarcerated in the gall-bladder, and producing occasional attacks of colic by becoming temporarily engaged at the opening of the cystic duct. These conditions have been verified by post-mortem examinations in the cases above referred to. But further, I have recently had shown to me twelve or fifteen small pyramidal calculi, evidently of hepatic origin, which had been found in the stools of a middle-aged woman after a series of attacks of severe colic, in which the pain was referred exclusively to the epigastrium, and which were unaccompanied by the slightest tinge of jaundice, apparently because the comparatively small size and the pyramidal shape of the calculi had not allowed the occurrence of sufficient obstruction of the common bile-duct while in transit.

While, however, it is not impossible that the passage of small biliary calculi may have occasioned the successive attacks in the case here reported, I am forced to consider whether their real cause may not have been the presence of one or more large or of numerous minute pancreatic concretions. When we consider the anatomical arrangement of the pancreatic duct and its close relations with the duodenum, as well as the composition of the secretion of this gland, it seems impossible not to believe that pancreatic calculi are of far more common occurrence than is usually received. The great majority of biliary calculi are undoubtedly formed in the gall-bladder, but still a considerable number of concretions occur in the minute bile-ducts. So, while the absence of any similar reservoir in connection with the pancreas must explain the comparative rarity of pancreatic concretions, the arrangement of the minute ducts, the liability of the flow of the secretion to be retarded by narrowing of the main duct from catarrh of its mucous membrane, and the character of the secretion itself, must lead, in not very infrequent instances, into the formation of concretions in the small ducts. From the valuable inaugural thesis of my friend and former student, Dr. George Woodruff Johnston (Univ. of Penna., 1882), in which are tabulated the results of an exhaustive study of the literature of pancreatic concretions, it appears that, including the case to be reported hereafter, there are only 35 cases known where the presence of such a concretion has been demonstrated by post-mortem examination. In most of these cases the concretion was large, and had contributed in large measure to the fatal result; and I do not feel that we can draw any conclusion from the above figures as to the frequency with which minute pancreatic concretions have been passed during life, or have been imbedded in the gland and not discovered in the post-portem examination, which so rarely includes careful examination of this gland. In cases of large concretions, usually associated with enlargement, cystic dilatation, chronic inflammation, or other grave organic change in the gland, the symptoms have been very varied, embracing pressure on the vena cava, with production of œdema and ascites; jaundice from pressure on the common bile duct; gastro-intestinal derangement, with vomiting (occasionally bloody) or diarrhœa, sometimes with fatty, sometimes with bloody, stools; or more rarely with constipation; diabetes in some cases; emaciation and anæmia; dull, deep-seated pain in the epigastrium, and occasional spells of sharp, colicky pain; tenderness on pressure; a sense of deep-seated resistance or a tumor on deep palpation. In a case of simple chronic catarrh, however, with minute concretions passing into the duodenum, it is clear that comparatively few of these grave symptoms would occur. Such a case would probably present only the symptoms mentioned on a previous page, together with slight deep-seated tenderness over the site of the pancreas; some dull, deep-seated pain or sense of discomfort and occasional spells of pancreatic colic, characterized by severe sharp pain in the epigastrium, or extending thence to the back, and unattended by jaundice. Without assuming that a diagnosis of pancreatic calculi has been established conclusively for the above case, I hope enough has been said to invite attention to the possibility of such an explanation in analogous cases.

In the following interesting case the pathological condition was very complicated, so that once more the pathological affinities of the pancreas are well illustrated. The occurrence of persistent diabetes in connection with permanent occlusion of the pancreatic duct is instructive; but the numerous lesions present render any minute analysis of the symptoms unsatisfactory.

CASE IV. *Jaundice; saccharine diabetes; general atheroma and calcification of arteries; enlargement of liver and dilatation of gall-bladder, with occluded cystic duct; enlargement and cystic disease of pancreas, with large and small concretions; catarrhal nephritis; valvular disease of heart.*—Jacob Snyder died in the University Hospital, aged 62. His general health had been fair, and he had worked hard, but rather unsuccessfully. At 30 years of age, he had a bubo following a venereal sore, but no subsequent secondary symptoms. He was always sensitive to atmospheric changes, and had occasional slight rheumatic attacks. For two years previously he had been sick; at first with constipation, alternating with slight diarrhœa, but for the past ten months the stools were clay-colored, offensive, and usually costive. No report exists of any free fat detected in the stools. Up to a very late period, the appetite was good, or at times even voracious, and there was no nausea, pyrosis, or vomiting; but still he lost flesh and strength considerably. For a year there had been frequent paroxysms of sharp pain in epigastrium and right hypochondrium, radiating to the right shoulder, over the chest, and through to the back. There was troublesome flatulence, which seemed to increase the pains. Deep jaundice had existed for nine months, and for nearly the same time a slowly growing mass had been observed in the median line about three inches below the xiphoid cartilage. The emaciation was marked; two months before death he had fallen from 165 to 125 pounds. The heart's action was slow; the area of dulness was increased; there was a strong systolic aortic murmur, and also a strong presystolic murmur at the mitral orifice, and a distinct præcordial thrill. For two months prior to death, the feet were œdematous. The urine contained eight per cent. glucose, a small amount of albumen and bile pigment, but no bile acid (Pettenkoffer's modified test). The liver was greatly enlarged and indurated, and the gall-bladder was so much distended that it could readily be detected through the abdominal walls. The epigastric tumor first mentioned was distinct from this distended gall-bladder, and, although readily discoverable, was deep-seated, immovable, hard, and moderately painful. He was admitted to the hospital Sept. 5, 1879. The treatment adopted was a pill of inspissated ox-gall and ext. gentian thrice daily, and a mixture containing bichloride of mercury $\frac{1}{16}$, iodide of potassium gr. vj, tincture digitalis gtt. x, thrice daily, in water. There was a marked improvement in the jaundice, and he gained weight and strength for about three weeks; from this time he sank quite rapidly, with increasing œdema and ascites, and died Oct. 7, 1879.

The post-mortem examination revealed hypertrophy of the heart, and marked stenosis, with calcareous deposits, of the mitral and aortic valves, and intense atheroma and calcification of the aorta and smaller arteries. The abdominal cavity contained a large quantity, and each pleural sac about two pints, of clear straw-colored fluid. The liver was heavy, enlarged, indurated, and roughened, and on section showed cirrhosis with nutmeg congestion. The gall-bladder was greatly distended and dilated; the fluid contained bile, a large amount of cholesterine, pus, red blood-corpuscles, but no sugar. The cystic duct was occluded by adhesion of its walls from pressure of the diseased pancreas. The hepatic and common bile-duct were pervious, but must have been somewhat compressed during life. The minute bile-ducts were found to be dilated, and Dr. Formad found "cavernous degeneration" (Klebs) of the minute bloodvessels of the liver. No gall-stones were found anywhere. There was chronic catarrhal nephritis of the kidneys. The pancreas was extensively diseased; the head was especially enlarged, forming the tumor detected during life, and so situated as to have compressed the bile-ducts; the organ was indurated and heavy. On section of the tumor formed by the head of the pancreas, one large and several small cysts were found, surrounded by hard, cirrhotic tissue. The hypertrophied connective tissue between the glandular elements was impregnated with crystalline and amorphous lime salts. The walls of the cysts were composed of connective tissue, lined by columnar epithelium, showing them to be distention cysts, developed from some of the follicles of the gland. There were also small pseudo-cysts in the other portion of the gland, formed by distention of the minute branches of the pancreatic duct. The larger cysts were filled with a dark liquid, which showed under the microscope crystals of cholesterine and triple phosphates, pus, red blood-globules, columnar epithelium, and some pigmented cells; chemically neither sugar nor bile could be detected. There were some small pancreatic concretions in these cysts, and in one place a branching distended portion of the duct was completely occluded by a large branching calculus, which is accurately represented three times the natural size in the accompanying wood-cut. The pancreatic duct could not be traced to its termination either in the duodenum or the common bile-duct, and it had evidently been totally occluded for a long time.

Pancreatic calculi differ widely from gall-stones in appearance and in composition. They are light,

porous, grayish, cylindrical, branching, sometimes tubular. An analysis of one gave the following results:

Phosphate of lime,	72.30
Carbonate of lime,	18.90
Phosphate of sodium,	trace
Animal matter,	8.80
	100.

Such calculi have been known to escape into the duodenum; or by rupture of a cyst to escape into the abdominal cavity, or to be discharged from an abscess pointing in the lumbar region. It seems to me altogether probable that, in this case, several minute concretions may have passed into the duodenum at an earlier period of its history, explaining, in the absence of gall-stones, the paroxysmal attacks of pain. In this connection, allusion may be made to Case III. My space will not permit an adequate discussion of the interesting question of treatment involved in such cases as are here reported. It would include a consideration of the careful hygienic and therapeutic course required for the successful management of cases of duodenohepatic catarrh; together with those special dietetic precautions by which may be obviated, as far as possible, the ill results of partial or complete interference with the flow of the pancreatic secretion into the bowel.

DIABETES MELLITUS FOLLOWING ABSCESS OF THE GALL-BLADDER; DEATH FROM COMA.

By GEORGE S. HULL, M.D.,
of Chambersburg, Pa.

In December, 1879, I was called to see Mr. A. S., a tailor, and found him suffering with severe pain in lower right hypochondrium. He described the pain as burning, throbbing, and occasionally lancinating. It dated back a number of weeks, and had been increasing in severity daily, being accompanied by continued fever and progressive emaciation. At this time he was wasted in the extreme, with a quick, small pulse, and an evening temperature of 101°. Appetite was poor and bowels very much constipated. He was not cachectic, nor could any family history of carcinoma be elicited. Upon examination, there was found quite a bulging over lower right lobe of liver, the swelling having a smooth, hard feeling. Poultices were applied, and quinine and nitromuriatic acid administered; the bowels being regulated by pulv. glycyr. comp. Nourishing foods, chiefly milk and beef-tea, were given freely. The patient held his own for several weeks, when, the swelling having increased considerably, some distant fluctuation could be detected. The aspirator was used, and about an ounce of thick, grayish muco-pus was with difficulty removed. Poultices were reapplied, and in a few days a deep incision made over the point of puncture. The pus flowed readily, though the amount contained in the abscess was not very great. The patient began immediately to improve, and soon regained his usual weight and resumed his occupation. However, the opening into the abscess refused to close, and kept oozing a pale, thin, sticky fluid. This did not give him any inconvenience other than the keeping of some absorbing material over the orifice. Occasionally the discharge would cease for a day or two, when he would complain of a burning pain, which was readily relieved by the application of a poultice, the discharge reappearing. A probe could be passed into the sinus but a short distance when it was arrested by a deflection which could not be followed. Palpation revealed nothing; the surface of the liver was smooth and its size seemed normal. Although the abscess was near the region of the gall-bladder, nothing of its contour could be felt, and no trace of bile could be found in the discharge.

About one year after this illness the man, who had been pursuing his business actively, often boasting of his good health, came to consult me about some "bladder trouble," which he said had been annoying him for some weeks past. He micturated very frequently, especially at night, and passed large quantities of water. His tongue was pasty and slightly coated. He complained of his mouth being dry, and of a burning sensation in his stomach, compelling him to drink large quantities of water; said he was feeling weak, especially in the limbs, and that the weakness and other symptoms had been coming on gradually during the last month or two. His appetite was fairly good and his bowels regular; no fever was apparent.

An examination of his urine showed it to contain a trace of albumen and a large quantity of glucose, its sp. gr. being 1030, and the amount voided daily about ten pints.

He was put upon the usual diabetic diet, and given ¼ gr. calcium sulphide four times daily. After taking the remedy five days, during which time his urine was steadily decreasing in amount, and in sp. gr. also, he became so nauseated by the unpleasant eructations that it had to be discontinued. Fluid extract of ergot was substituted, and only given a couple days, when a sudden fever lighted up, the temperature reaching 102½° at night. There was also an increase in amount and density of the urine. Tincture of aconite root was given in three drop doses every two hours, the ergot being withdrawn, and in twenty-four hours the fever had left and did not return. The urine was again tested and found to contain no albumen, and but a trace of sugar, the amount passed, however, was double that of normal. The aconite was continued several days, thinking it might have been influential in causing the sudden disappearance of the sugar, etc., but the result was disastrous, the urine in two days rising in sp. gr. to 1032, and in amount to twelve pints daily. He was now prevailed upon to take the calcium sulphide again, and it was given in ½ grain doses every three hours. In three days he was passing about nine pints daily, having a sp. gr. of 1019. Bowels regular; tongue still dry; feeling brighter. Sulphide reduced to ⅓ grain every three hours.

Jan. 14.—(Two days later) eight pints; sp. gr. 1020.

16th.—Seven pints, sp. gr. 1016. But a slight trace of glucose by Fehling's test; no albumen. Tongue becoming moist. Calcium sulphide ¼ grain four times a day.

21st.—Sp. gr. 1020, but little above the normal amount. Tongue moist; appetite very good; gaining strength.

24th.—Sp. gr. 1019; amount normal, Discontinued sulphide, which had produced no disagreeable symptoms this time, the patient bearing cheerfully with the unpleasant taste and foul eructations, when he realized what good it was accomplishing for him. For one week after stopping the medicine the diabetic regimen was enforced, and then a gradual return to ordinary diet allowed. There was no reappearance of any of the symptoms, and he soon regained his usual weight and applied himself again to his trade. During this attack the sinus discharged the usual amount of thin mucus and gave him no uneasiness at all.

On the evening of April 12 (seventy-eight days since last treatment) was called to see Mr. S. He had been working unusually hard for a couple of weeks past, in order to start his son in business. Found his pulse 100; temperature 102°; skin and tongue dry; face flushed; occasional slight chills; no pain; no increase in amount of urine. The flow from sinus had ceased and to this he attributed all his symptoms. Aconite was freely given and a poultice applied to side. Although the urine contained neither glucose nor albumen, yet, fearing a return of the glycosuria, ¼ grain calcium sulphide was ordered to be given four times a day.

April 13.—A.M. Pulse 90; temperature 100°. Urine rather scanty; no sugar; no albumen. Feeling better. In the evening had several light chills, and fever rose to 102°; pulse 110. Aconite discontinued; eight grains of quinine given.

14th.—Perspired freely during night, no fever this morning. Sinus discharging again and patient feeling greatly relieved. For six days he remained free from fever and pain; complained only of great weakness. As there was no increase in the amount of urine and no sugar present, the sulphide was discontinued, and a more liberal diet allowed. His appetite was good, and between meals he partook freely of milk, egg-nog, etc., all of which he retained, but without adding to his strength. He now began to fail rapidly, complaining of great weakness and shortness of breath (his inspirations were deep, though hurried). He seemed very anxious, occasionally restless; had no pain whatever, although his groanings were loud and frequent. He conversed but little; had no fear of death, though he seemed to realize his hopeless condition. Even at this time his urine contained neither sugar nor albumen, nor was any fever present, although his pulse was rapid. He took freely of stimulating drinks, yet gradually sank into coma, which deepened till it ended in death.

A general *post-mortem* examination was not allowed, only permission given to examine the seat of abscess. Accordingly, seven hours after death, the abdominal cavity was opened. The gall-bladder was found adherent to abdominal wall, omentum and a portion of the small intestine. A probe inserted at external opening of fistula (which was three inches to right and one inch above umbilicus) was pushed with difficulty through a tortuous route of three inches into the gall-bladder, where it impinged against a hard substance. The gall-bladder was opened and found to contain fifteen gall-stones, varying from the size of a grain of wheat to one whose largest circumference measured 4½ inches, and whose weight, when dried, was 246 grains. Besides the stones there were present in the gall-bladder about two drachms of grayish mucus; no bile. The walls of the bladder were very much thickened and moulded closely around the calculi. There were no signs of recent inflammation; no fluid in abdominal cavity. Nothing abnormal could be detected in appearance of liver, however a section was secured for the microscope; the gall-bladder and contents were also taken. A microscopic examination of the liver yielded nothing of importance; the tissue was not stained with bile and was but very slightly fatty. The walls of gall-bladder were very much hypertrophied.

One would naturally look to the condition of the gall-bladder for the cause of the diabetes in this case, and, indeed, with good reason, in these days when so much light is being thrown upon this once "incurable disease." A thorough examination of the brain with negative results, had such an examination been permitted, would make one more positive in this opinion; however, the man had no history of injury, sunstroke, etc. etc., that would lead to any suspicion of brain disease. It is well known that disease of the cerebrum, cerebellum, and pons, and irritation applied to the floor of the fourth ventricle will produce diabetes mellitus; also is it accepted that the disease may be produced reflexly by irritation applied to the ends of the vagus in the liver, lungs, or intestines (tapeworm has been known to be the sole cause of a bad attack).

Here, with the irritation caused by the large mass of calculi, the fistulous opening into the gall-bladder and the adhesions to omentum, intestine, and abdominal wall, we certainly have a fruitful source of irritation to the ends of the vagus, and why not attribute the diabetes to the reflex irritation from these causes?

Concerning the treatment, the calcium sulphide (suggested first, I believe, by Dr. Husted) seemed to do wonders. Its withdrawal in the beginning of the treatment, on account of its causing nausea, and the substitution of ergot and aconite were disastrous, the patient soon becoming worse than at first. However, upon resuming the sulphide, its good effects were soon again manifested, and the patient *cured*—unless the fatal attack, nearly three months later, could be called *diabetic coma*, in spite of the absence of sugar from the urine. The term diabetic coma, however, embraces so much that we might indeed bring this sudden death under its far-reaching appellation. If acetonæmia be the sole cause of the coma, there were no striking symptoms of its presence in this case. The blood was not examined for acetone, but the breath had no characteristic

odor, nor had the cadaver when opened. If, however, diabetic coma be due to some lesion of the sympathetic system (as suggested by Teschemacher) causing *shock* from reflex paralysis of the vaso-motor nerves, the symptoms were striking indeed.

After months of hard labor, especially mental, the patient, a poor man, finally succeeded in establishing his son in business; then, the strain being over, found himself exhausted; rallied a little, then rapidly sank into coma and died—very much indeed as a man would die from the shock consequent upon a formidable surgical operation.

MEDICAL PROGRESS.

INOCULATION IN PANNUS.—DR. LOUIS L. SEAMAN reports that at the Charity Hospital the ophthalmic surgeons have resorted to inoculation in six obstinate and exaggerated cases of pannus, with the following results: First patient, totally blind in both eyes for several years was inoculated with gonorrhœal pus; discharged in April last, at his own request, as he desired to get work; vision in one eye 10-200, and 2-200 in the other. His sight has undoubtedly doubled since, though every effort to find the party has been unsuccessful. This patient had an attendant for some years previously and had been most of the time under treatment. Second and third patients had perception of light in one eye, while with the other, each patient could count fingers at the distance of a foot (1-200). Both were inoculated with a traumatic urethral discharge, which ceased after ten days' treatment. The purulent ophthalmia was very severe in all four eyes and continued for seven weeks, during which time the patients had a special nurse, night and day; and though in open ward, they were successfully secluded from the other patients by means of screens. The results of the inoculation were as follows: Second patient, right eye with white leukoma (large iridectomy previously made) and partial pannus; vision, 6-100; left eye, 12-100. Third patient, right eye, vision, 20-100; left eye, perforated cornea and perception of a moving object at a distance of two feet. These results are worthy of consideration, though the procedure is confessedly severe.—*Report of Ophthalmic Division of Charity Hospital, Blackwell Island*, 1882.

ABNORMAL DISTRIBUTION OF ARTERIES AT BASE OF BRAIN.—Abnormal arrangement of arteries in the circle of Willis is rare. At a recent autopsy such an irregularity was noticed by S. G. WEBBER, M.D. The two anterior cerebral arteries came so near each other that the anterior communicating artery was only about one line in length. The right posterior communicating artery was only about one-tenth the usual diameter, the right posterior cerebral artery was twice the usual size, or larger. The left posterior communicating artery was nearly twice the usual size, and virtually was the origin of the posterior cerebral; the left posterior cerebral was about half the usual size until it met the posterior communicating. Thus the region supplied by the right posterior cerebral artery received very nearly all its blood through the basilar; that supplied by the left posterior cerebral artery received more than three-fourths its blood through the left carotid. The right posterior cerebellar was so small that it could not be distinguished from other small and terminal arteries. Its place was taken by one of the branches from the basilar, which was larger than usual, and, after passing backwards and upwards over the surface of the cerebellum, curved forwards and downwards to occupy the normal position of the posterior cerebellar between the cerebellum and medulla. The basilar artery was rather longer than usual, the vertebrals uniting at a lower level than normal. The middle cerebral arteries and the anterior cerebellar arteries were normal.—*Boston Medical and Surgical Journal*, Dec. 7, 1882.

FRACTURE OF THE CRICOID CARTILAGE.—DR. MASUCCI reports a case of fracture of the cricoid cartilage followed by cure. The rarity of this lesion and the conflicting accounts as to the mechanism of its production, led him to make a number of experiments on cadavers and dogs, in which the various conditions were imitated in which this lesion could be produced. He found that to produce a fracture of the laryngeal cartilages, a certain degree of ossification must be present, and the larynx must be fixed by muscular action, the blow or violence must be on the larynx directly from before backwards, and not obliquely or laterally; otherwise the larynx will be displaced and not fractured. Asphyxia and aphonia are constant symptoms, and the former, unless treatment is energetic, will be the cause of death: crepitation, emphysema, and dysphagia are also present, with the other signs of violence, such as ecchymosis, œdema of the neck, etc. M. Masucci also observed a condition of convulsive trembling of the sub-hyoid muscles.—*Rev. Mens. de Laryngol. d'Otol. et de Rhinologie*, November, 1882.

TWO SUCCESSFUL CASES OF CHOLECYSTOTOMY.—MR. LAWSON TAIT reports the following cases. The first was that of a lady aged 28, with obstruction of the cystic duct from gall-stones. The abdomen was opened by a vertical incision over the tumor, which proved to be the distended gall-bladder. He emptied it by the aspirator, removing about a pint of thick glairy mucus. He then laid it open, and removed about eighty gall-stones of small size, the largest weighing fifteen grains. They were removed chiefly by the use of a *curette*.

He then stitched the aperture in the gall-bladder to the wound in the abdominal wall, carefully closing the peritoneum, and leaving a drainage-tube in the gall-bladder. The patient's recovery was uninterrupted; the highest temperature recorded was 100.4°, and the highest pulse record 84. The stitches were removed on the eighth day, the drainage-tube on the twentieth day, and in ten days more only a small sinus was left, from which some mucus still continues to be discharged. The patient has gained flesh since the operation, and has been entirely free from pain.

Neither at the operation nor in the after-treatment were any of the "antiseptic" methods of Prof. Lister employed.

The fistula in the gall-bladder continued to discharge clear mucus till on August 5, when "something seemed to give way," as she said, and bile flowed freely. This shows that the occlusion of the duct had been overcome, and the complete functions of the organ may be re-established by the closure of the fistula.

The second case was that of A. B., aged 37, who was placed under his care some weeks ago by his colleague Dr. Hickinbotham. A tumor in the position of the gall-bladder could be occasionally discovered, and she suffered intermittently from severe attacks of colic. It was clearly a case of distended gall-bladder. On October 13, he performed an operation precisely similar to that narrated above, and removed sixteen gall-stones, varying from seven grains to thirty-five in weight. He removed the drainage-tube on the third day. The stitches are now (October 24) all removed, and the wound is almost healed.—*British Medical Journal*, November 18, 1881.

Demonstration of the Bacillus Tuberculosis in Sputa.—Dr. Hlava recommends the following method as especially applicable to the detection of bacilli in tuberculous sputa: Fifty grammes of fuchsin or methyl-violet solution are poured into two hundred grammes of alcohol, and allowed to stand twenty-four hours, and then filtered. A saturated solution of oil of cloves is then prepared, which must remain cloudy and of a dirty yellow color; it is then filtered, and a few drops of the fuchsin solution added, so as to form an opalescent solution. The sections are allowed to remain in this solution for thirty minutes, and decolorized by a mixture of nitric acid and water, 1 to 5; they are then washed in water or alcohol, cleared with oil of cloves or glycerine, and mounted in Canada balsam or glycerine cement. Sputa are prepared as directed by Koch, and stained as above, with the exception that a mixture of equal parts of nitric acid and water is required to remove the excess of color. The bacilli are by this process stained either red, violet, or blue.—*All. Wiener Med. Zeit.*, Oct. 31, 1882.

Croup and Diphtheria.—Prof. E. Henoch draws attention, by means of a paper published in the *Berliner klinische Wochenschrift* of Oct. 2d last, to the difference which, according to his view, exists between the non-specific croupous angina and true diphtheria, diseases which he believes are not sufficiently discriminated. At the outset he expresses his conviction that there is such a thing as a non-specific croupous pharyngitis, and he regards croup as only being identical with diphtheria, whether in its pathological or other relations, in the same way as a smallpox pustule resembles a pustule produced by vaccinia or as the result of the inunction of tartar emetic. Any so-called croup having a specific origin is, he alleges, diphtheritic. With a view to the better distinction of the two diseases, he points out that the non-specific croupous pharyngitis is generally characterized by the suddenness of the febrile invasion, whereas in diphtheria the fever is at the onset only slight and insidious in its progress. A much less constant difference lies in the fact that in the non-specific disease a single tonsil is, in the first instance, much more frequently affected than is the case in diphtheria. So also the extension of the membrane to the palate, and especially to the back of the pharynx, must always be regarded as highly indicative of true diphtheria, and the implication of the mucous membrane of the nasal passages is a certain sign of that specific disease. On the other hand, certain indications to which importance is at times attached are, according to Prof. Henoch, comparatively unimportant. Thus albuminuria, generally regarded as a symptom of diphtheria, is often absent in undoubted cases of that disease, and micrococci, when discovered by the aid of the microscope, are of little value for the purposes of diagnosis, not only because they are found everywhere in the mucous membrane about the pharynx, but because no definite microphyte has been shown to be associated with diphtheria. The difficulty attaching to a correct diagnosis should, however, in the author's opinion, never interfere with measures of prevention, and hence he urges that where there is the least doubt as to which disease is being dealt with, isolation should be rigidly enforced.

Prof. Henoch proceeds to point out that the disease known as scarlatinal diphtheritis is essentially distinct from specific diphtheria, and, according to his experience, the failure to distinguish between them is largely due to the fact that scarlatina and diphtheria are often treated in the same wards, and that patients whilst convalescing from the one contract the other. Cases are cited to show how patients recovering from scarlet fever associated with marked throat lesions have contracted true diphtheria, and it is further shown that in patients who have undergone the operation of tracheotomy for diphtheritic croup, scarlatina with throat ulceration has subsequently intervened, the reception of the scarlet fever being greatly facilitated both in such an instance and in the case of convalescence after extensive diphtheritic throat lesions by the fact of the exposure of a wounded surface to that scarlatina poison. In such instances it is, however, suggested that a correct diagnosis will be aided if it be borne in mind that the throat ulcerations due to scarlatina follow on and do not precede the diphtheritic symptoms. In some of these instances the characteristic sequelæ of the two diseases have, in the later stage, been found mingling together in a manner which might easily be regarded as affording some proof of the unity of the disease, had it not been for the clear distinction between them which was possible at an earlier period of the patient's illness.—*Lancet*, Nov. 18, 1882.

The Treatment of some Chronic Gastric Disorders.—M. Broca, in a series of articles (*Le Progrès Médicale*, 39–42), strongly advocates, in ulcers of the stomach and chronic gastritis from various causes, the systematic washing out of the stomach and artificial feeding. In washing out the stomach there are two indications to fulfil—one, to empty it of its contents, whatever they may be; and the other, to treat the diseased mucous membrane with medicated solutions. He advocates the use of the siphon tube, on the ground that its manipulation is so easy that in a very short time the patient can learn to wash his stomach out himself. The washing over, the patient should be fed before the tube is withdrawn, powdered meat, raw eggs, milk, or broth being the most suitable food. He lays great stress on the advantages of over-feeding the patient, and mentions six hundred grammes of raw meat, a dozen eggs, and three litres of milk as a daily allowance that may easily be exceeded. It is always necessary to commence gradually, until it is ascertained that the patient can digest milk and eggs well. Should pain come on some hours after the meal, it is advisable to empty the stomach by means of the tube. The cure is permanent if the patients only take proper care of themselves afterwards. He thinks that this mode of treatment might with advantage be extended to other cases than purely stomach disorders; he suggests it, for instance, in advanced phthisis.—*Medical Times and Gazette*, November 18, 1882.

The Action of Quassine.—Dr. Comparden finds that quassine, the active principle of quassia amara, in moderate dose produces an increase in the salivary, hepatic, and renal secretions, and acts as a stimulant to the muscular fibre of organic life. In doses of 15 milligrammes to 15 centigrammes, it causes in man a burning pain in the œsophagus, headache, nausea, vertigo, dimness of vision, vomiting and diarrhœa, and cramps of the muscles of the leg. These symptoms are removed by chloral or chloroform.—*Bull. Gén. de Thér.*, November 15, 1882.

Treatment of Enlarged Tonsils.—When excision cannot be performed, Dr. Gordon Holmes mentions the following as a very effective method of applying the common caustics to the tonsil, which appears to have remained hitherto unnoticed. The tonsil, as the anatomist knows, is permeated by several rather large channels around which the follicles are collected, opening on the pharyngeal side of the gland, whence its characteristic cribriform aspect. Their orifices, about seven to fifteen in number, are sufficiently evident to be counted on the healthy tonsil *in situ*, whilst

in the hypertrophied condition these lacunæ increase greatly in calibre and depth, and can be ascertained by a probe to vary from one-eighth of an inch to half an inch in length, with a diameter capable of admitting a style of ordinary size. These observations, then, afford a valuable indication for treatment: for through these natural canals a way lies open for us to attack the heart of the gland in a most efficacious manner with our caustics. Thin, pointed sticks of nitrate of silver or chloride of zinc can easily be pressed into the lacunæ and worked round for a few seconds. Small sloughs are thus formed, which are soon discharged, and in the progress of this treatment the tonsils are hollowed out in one direction whilst being contracted into much smaller bulk by the subsequent cicatrization in another. Two or three channels in each tonsil can be cauterized daily or on alternate days, and we can thus act on a comparatively large surface whilst causing but slight external soreness and little or no suffering to the patient. In practising this method, although the stronger caustics may be used, he does not think it will be necessary to have recourse to anything more potent than nitrate of silver, which acts much more effectually on the tender internal structures of the tonsil than when applied to the comparatively callous pharyngeal surface.—*Lancet*, November 11, 1882.

Extirpation of a Cyst of the Mesentery; Recovery.—Werth (*Arch. f. Gynäk.*, xix., 2, 1882) reports the case of a patient who happened to notice an abdominal tumor during an attack of colic, three months previously. The tumor was of the size of a child's head, very movable. Soon after W. had examined the woman, the tumor became incarcerated in the pelvis, causing great pain, vomiting, and general prostration. Laparotomy. The tumor was imbedded between the two layers of the iliac mesentery, and was easily enucleated. Recovery. The contents of the cyst were of the consistency of thin gruel, not unlike a suspension of chalk in water. Microscopically nothing was found in the contents of the cyst but albuminous and fatty detritus. The wall of the cyst showed a distinct lamellar structure. W. failed to find epithelial cells, the predominant structural elements being those of the connective-tissue type. As to the nature of the tumor, W. thinks that it was a mesenteric gland transformed into a cyst.—*American Journal of Obstetrics*, December, 1882.

Etiology of Croupous Pneumonia.—Griffini and Cambria have been working at the question of the etiology of croupous pneumonia, and an abstract of the results of their investigations is given in the *Centralblatt für klinische Medizin*, No. 25. There is, they conclude, a bacillus in the blood and sputa of pneumonic patients, which is not the same as Klebs' *monadin*. When the pneumonic sputum, free from saliva, was subcutaneously injected, or placed in contact with the trachea of rabbits and dogs, a fatal form of septicæmia was induced, and the blood of these dead animals when inoculated into others led to a lethal result. The authors maintain that this is not a specific effect of pneumonic sputa, for some old experiments by Senator have shown that the inoculation of fresh bronchial mucus under the skin of a dog was followed by a deadly result. The saliva of pneumonic patients kills rabbits rapidly, but only gives rise to an abscess at the site of injection in dogs. Defibrinated blood from cases of pneumonia, thrown into the cavity of the peritoneum or of the trachea of rabbits and dogs, resulted not in pneumonia, but in various degrees of fever. Inoculations of the bacilli in various stages of artificial cultivation never caused any changes in organs, but only alterations in temperature. The bacillus of the pneumonic blood and sputa was always afterwards found in the blood of the vaccinated animals, although it had excited no pneumonia; hence, the authors believe that the bacillus found in the patients suffering from pneumonia was an epiphenomenon, and not a necessary factor in the production of pneumonia. When small doses of ammonia were syringed into the trachea of animals, lobar pneumonia was invariably produced if the animals survived a few days. The authors come to the conclusion that pneumonia is not an infectious disease—*Medical Times and Gazette*, November 25, 1882.

Color-blindness.—Dr. Kolbe, one of the several Russian physicians who have been engaged in a series of important researches in connection with color-blindness, has published the results in *Vratsch*. Out of 10,828 railway servants examined, no fewer than 251 were color-blind, and 32 proved to have an imperfect capacity for distinguishing colors. The average percentage of color-blind would thus be 2.6; but the five doctors who have made these investigations arrived at very different percentages, namely, from 0.85 to 5 per cent. Three other doctors have made experiments on sailors and pupils in naval schools, and have found a much higher percentage—6.08 per cent. of color-blind, and 8.5 with imperfect vision. Among scholars of naval schools, the percentage of color-blind is, however, smaller—that is, 1.6 and 1.95. Women are subject to a far smaller extent to color-blindness. Thus, Dr. Kolbe, who has experimented both on men and women, discovered among the men 2.5 per cent. of color-blind, and 7.5 with imperfect vision; whilst among women, he has discovered only 0.16 per cent. of color-blind, and 3 per cent. with imperfect color-vision.—*British Medical Journal*, November 18, 1881.

The Value of Anomalous Respiratory Movements in the Early Diagnosis of Pulmonary Tuberculosis.—Dr. Grancher shows that more value than has heretofore been believed can be attached to the presence of anomalous respiratory movements in the early diagnosis of tuberculosis of the lungs; and, when the irregularity is localized in the apex of the lung, particularly on the left side, and is permanent, it permits of a positive diagnosis, even in the absence of other signs, such as crackling or alterations in vocal fremitus or pulmonary resonance. These respiratory anomalies, in the order of their importance, are rough and deep inspirative murmur, feeble and jerky respiratory movements; the harsh and deep-toned inspiratory murmur is the most valuable sign, as it is the earliest which appears.—*L' Union Médicale*, November 21, 1882.

Modification of Salivary Secretion by Excitation of the Sigmoid Gyrus.—M. Bochefontaine has observed that violent excitation of certain regions of the cerebral cortex is followed by a condition of complete inexcitability. The passage then of a galvanic current through a point of the sigmoid gyrus, whose stimulation was previously followed by a secretion of saliva, is then inefficacious; but this same current when passed through a point in the immediate neighborhood, then causes a flow of saliva and this point in its turn becomes inexcitable. M. Bochefontaine proposes the following explanation: denying the excitability of the gray matter, he attributes the phenomena to stimulation of the white peduncular fibres; when these fibres are excessively stimulated at any point of their path, they become inert through a small extent, but preserve their excitability through the remainder of their path.—*Le Progrès Médicale*, November 18, 1882.

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SATURDAY, DECEMBER 23, 1882.

EMBARRAS GASTRIQUE.

IN presenting the compliments of the season to our readers, it is our hope that this issue may reach them in the full enjoyment of the pleasures of this festal time.

As a subject connected with the medical aspects of Christmas-tide, we beg to offer some observations on a malady often produced by its festivities.

Embarras gastrique is an eminently apt designation, for which we have no suitable or exact English equivalent. This malady is not less, but more common, in this country than in Europe. Americans habitually indulge more freely in the pleasures of the table than foreigners, because of the high price of labor and the cheapness and variety of our native foods. Especially at the holiday season are attacks of acute gastric catarrh common. The unrestricted indulgence in sweets allowed to children at this season, the unwonted imbibition of alcoholic fluids of all kinds by adults, and the general consumption of rich articles of diet by all classes and every age, necessarily greatly embarras the stomach. It would, however, be taking a very narrow view of the subject to limit the pathological mischief to the mere stomachal disturbance. Although perfectly well known, it is doubtful whether there is an adequate conception of the important reflex relations of the stomach entertained by physicians in general.

Besides the mere stomachal derangements characteristic of *embarras gastrique*, there are varied and important reflex disturbances. It is a well-known fact that attacks of acute alcoholic delirium, and *delirium tremens*, are far more common at and immediately after the Christmas holidays than at any other period. Convulsions, attacks of laryngismus stridulus, ulceration of the tonsils, are reflex effects observed in children under the same conditions. Cerebral hemorrhages and epileptiform seizures are amongst the more uncommon reflex accidents thus induced; whilst vertigo and hebetude of mind belong to the usual and ordinary reflex effects of *embarras gastrique*. We should not overlook the agency of stomachal derangements of an acute kind in the production of pneumonia. If we refer to the anatomical relations of the vagus, and the results of its division in animals, we can hardly doubt the effects which may follow irritation of its end organs in the stomach. The depressing effect of persistent irritation of these terminals on the nucleus of the nerve, we do not doubt, may be the needed factor to determine an attack of pneumonia when the other conditions are present. Amongst the most frequent of these reflex effects, are certain cardiac troubles. There are also mechanical effects of no small importance. Irregular action, and more or less violent palpitation, in adults, intermission of the pulse in children, are obvious reflex cardiac symptoms. Gaseous accumulation, and the consequent upward pressure of the stomach against the diaphragm, mechanically impede the play of the heart. These effects, although distressing, and often alarming, are not dangerous to life, in the normal state of the organ, but when a fatty condition of the cardiac muscle exists, and in some cases of adherent pericardium with the resulting myocarditis, in those mysterious instances of cardiac neuralgia with changes in the motor ganglia, etc., these functional disturbances assume a high degree of pathogenetic importance.

The least attentive consideration of the foregoing facts, must convince any one that *embarras gastrique* is not a trivial disorder.

The catarrhal condition of the mucous membrane is rarely, if ever, limited to the stomach. The mucous membrane of the duodenum, is implicated to a less or greater extent, and by no means infrequently, some catarrhal swelling of the orifice of the common bile-duct, and of that conduit itself, takes place. The influence of this condition in the symptomatology of the malady under consideration will be made evident, hereafter.

The symptoms by which *embarras gastrique* is recognized, are, a rather heavy or foul breath; a coated, sometimes heavily-coated, tongue; a yellowish and suffused conjunctiva; a muddy, almost jaundiced complexion; headache, dizziness, and confusion of mind; nausea, often vomiting which becomes bilious after a time; stomach pain; constipation, sometimes diarrhœa, etc. In children there may be feverishness, and in adults fever, or a

slow pulse indicating cerebral oppression. Very often, the offending substance may be recognized in the eructations, or merely in the consciousness of the patient. Lastly in some persons, especially in the case of habitual sufferers, an attack of this malady always takes the form of sick headache.

If we have not overrated the importance of *embarras gastrique* the treatment of this condition deserves careful consideration, particularly at this season when we are likely to see so many examples of the affection. The mildest cases may, it is true, need only evacuation of the stomach, but those in which the catarrhal process has invaded the duodenum, require more elaborate management. A careful regulation of the diet, including almost total abstinence for the first day or two, the stomach having been thoroughly emptied by suitable means, and the administration of a mild saline, such as a Seidlitz powder, may be the only measures necessary. The most obvious reason for thorough evacuation of the stomach, is the irritation caused by the fermentation of certain constituents of the foods. The saccharine and fatty elements, especially, undergo the acetic, lactic, and butyric fermentations, resulting in the formation of highly irritating acids. Hence it is, when the contents of the stomach come up, they are intensely acid and offensive. When acid is so much in excess, there is enough not only to neutralize the alkaline juices of the duodenum, but to give an acid, rather than an alkaline, reaction to them. After the stomach is emptied and the intestinal canal moved by a saline, an anti-ferment—if the derangement continue—renders an incontestable service. Under such circumstances, a combination of carbolic acid, or creosote with bismuth, is highly useful. An alkali, given to neutralize the acid, merely palliates, by removing the acidity for the time being, but rather favors than retards subsequent acid fermentations.

An important point in this connection is the administration of mercurials. When the conjunctiva is yellow, the complexion muddy, and the tongue has a yellowish coating, especially if there be a jaundiced hue of the skin, mercurials are supposed to be indicated. It is particularly advisable to have correct views in respect to this condition of things. Rutherford's experiments on dogs, as all the world knows, have demonstrated that calomel does not increase the hepatic secretion. Dogs are generally considered poor substitutes for men, but there happens to be entirely confirmatory evidence in the case of Westphalen's patient with a biliary fistula, on whom calomel rather decreased the flow of bile. If calomel had a stimulant effect on the liver, it would be contraindicated in these cases. It is undeniably useful, on the other hand, and because it has sedative effects. In the cases of *embarras gastrique* small doses of calomel—one-half to one-sixth grain—will allay the irritability of the stomach, and act efficiently as a purgative. The change in the character of the evacuations produced by mercurials, not due to alterations in the hepatic secretions, are too complicated to be discussed here. Whilst we may admit the fact of the change, and the utility of the treatment, we must reserve our judgment in regard to the precise nature of the process. If relief is procurable by less doubtful means than the administration of mercurials, there can be no question about the propriety, indeed the duty, of employing such measures.

WANTED—A NEW ANATOMY ACT.

The recent deplorable developments in reference to the supply of anatomical material by illegal methods, which have been followed by such swift punishment, have called attention to the exceedingly unsatisfactory condition of the law of 1867, commonly called "the Anatomy Act," for the distribution of unclaimed dead bodies. This Act provides that public officers shall deliver for dissection the bodies of deceased persons required to be buried at the public expense, said bodies to be distributed among the schools equitably in proportion to the number of their students. We take occasion, therefore, to suggest that a new Anatomy Act should be passed during the coming session of the Legislature, and to point out the alterations which seem necessary for the efficient working of such an Act. Other States may well profit by the experience of our own.

1. The present Act applies only to the counties of Alleghany and Philadelphia. Practically the Philadelphia schools have to depend on the supply derived from Philadelphia County only—a restriction both unreasonable and noxious, as the late events prove. That it is unreasonable, any one will admit, when it is considered that physicians from all parts of the State are educated at Philadelphia. During the last session at the University and Jefferson College alone, there were 547 students from Pennsylvania, the vast majority of whom came from other counties of the State than Philadelphia, and yet only the unclaimed dead of Philadelphia County are legally made available for their instruction. The new Act should make the unclaimed dead in the *whole State* available for dissection.

It may be asked whether there exists any need for an Act so wide in its application. Let the figures answer. We would scarcely let any one meddle with our watch who had but twice dissected one. It will, then, hardly be thought unreasonable that the student shall dissect and perform operations upon the human body *once* during each of the two years devoted to the study of anatomy. This would require each winter one subject to every two stu-

dents in the anatomy and operative surgery classes. Taking no account, then, of those students who would desire to do *more* than this, let us see what should be the very smallest number of subjects necessary for their reasonably thorough medical education.

During the session of 1881–82 there were in the dissecting and operative surgery classes in Philadelphia 1493 students, who under this estimate would require 746 subjects, to which number must be added about 50 for lectures and demonstrations by the professors, that is, 796 subjects. This, be it understood, is the number of subjects *required*. The number actually *used*, as we have the best reason to believe, is but little beyond one-half this estimate. The resulting restriction of the anatomical and surgical opportunities of students is no less serious than it is lamentable.

The number of subjects received from the Almshouse during that session was 302—about 40 or 50 more than the average number. To this may be added, say 93 from the Coroner, and about 10 from the prison, the House of Correction, etc., making about 405 subjects. If 796 subjects are requisite and only 405 are to be had from proper sources of supply in this County, is it not reasonable to ask that other counties assist in the medical education of their own students who come to Philadelphia, to say nothing of the students from other States. Such a statement of the utter inadequacy of the supply emphasizes also the need for an equitable distribution of the bodies legally available, not only from the Almshouse, but from all other sources.

One thing more should be said—that in spite of the great difficulty the medical schools of this city have had, in common with those in all parts of the country, in supplying the increasing number of students with anatomical material, desecration of graveyards has been exceedingly uncommon. Since 1867 when the Anatomy Act was passed, until the recent spoliations began, we have good reason to believe that rarely, if ever, have any bodies been supplied illegally.

2. The present Act says that the unclaimed dead are to be distributed among the schools *pro rata*, but no well-defined machinery is provided by law for such a purpose. The anatomists have voluntarily agreed upon a fair distribution by an Anatomical Committee, to whom stated returns are made by each school. The Board of Guardians of the Poor have availed themselves gladly of this solution of the problem, but the Coroner, though for some months in 1880–81 he acquiesced in the same plan, no longer does so, and now claims that the Act does not require him to distribute the unclaimed bodies that come under his cognizance. Indeed he states that, in accordance with his view of the law, it is his duty to have them buried, and that after he has given the certificate of death his control over them ceases. This view we cannot accept, since the law expressly devotes those bodies "required to be buried at the public expense," to the medical schools "for the advancement of medical science," and directs that "any public officer having control over them shall give permission to any physician or surgeon to take them, preference being given to medical schools, public and private." The new Act should prescribe a fair method of distribution, similar, perhaps, to that already in existence, and make it obligatory upon public officers to submit to it.

3. The present Act provides a penalty for trafficking in bodies, but omits any penalty for non-compliance with its provisions. To urge the insertion of such a penalty would be a work of supererogation.

Had the above remarks only to do with the pleasure of doctors in scientific studies it would be even then of no little moment. But it is the terrible results that must ensue to the community from imperfectly educated medical men, unless something radical and efficient be done, that make it of vital importance. The whole community is interested that its advisers at birth, sickness, and death be as skilful as possible. To be such they must know first of all the anatomy of the human body.

We hope, therefore, that immediate steps may be taken looking to prompt legislative action.

MENTAL CULTURE AND LONGEVITY.

SIR THOMAS WATSON'S career affords a signal illustration of the influence of mental culture on longevity. Notwithstanding he passed a life of incessant labor, he continued with unimpaired intellect much beyond the ordinary period of human existence. The late Dr. Jacob Bigelow, of Boston, who attained the advanced age of ninety-four, is another instance. A most interesting account of an interview with Dr. Bigelow, a short time before his death, was published by Dr. Bowditch, of Boston, in the *Boston Medical and Surgical Journal*, in which we learn that the aged Doctor had not lost that acuteness of intellect which had distinguished him during the most active period of his life. Sir Thomas Watson seems to have preserved his powers until a short time before, if not until quite up to, his last moments. There are many other examples of the combination of longevity with a high order of professional and intellectual activity, of course; but few instances of such conspicuously high mental activity, conjoined to such extreme longevity. We dwell on this aspect of Sir Thomas Watson's career the more especially to impress on our readers the beneficial effect on the bodily functions of active exercise of the mental powers. We hear much in these days of the deleterious effect of unremitting

mental toil; but what shall be said of the career of the eminent professional men who have outlived, as they outworked, the most of their contemporaries?

In the case of Watson, it was not alone education, culture, and vigor of constitution which advanced him to the highest rank in the confidence and esteem of the English people. He conjoined to an admirable *suaviter in modo* a most refined *fortiter in re*. He was, at the same time, a pleasant and cordial gentleman, and a resolute and uncompromising opponent of all mean and base practices of every kind.

DERMATOLOGICAL.

WE have constantly to lament the unkind spirit in which medical journalists refer to the work of their colleagues. It has not often fallen to our lot to record a more signal instance of this than the comments of the *Michigan Medical News* on the opinions of Dr. L. P. Yandell, Jr., in respect to the pathogenetic relations of cutaneous diseases. Dr. Yandell is one of the editors of the *Louisville Medical News*, and, also, a professor in the University. He may, therefore, be supposed to know something of the subject in regard to which he gives an opinion. The *Michigan Medical News*, actuated by that iconoclastic spirit, unhappily too much in vogue in our time, criticises these utterances of Dr. Yandell, and the latter appeals to his colleagues of the press for justice. We are deeply impressed with the magnitude of our responsibilities under these circumstances. When doctors differ, who shall decide? is the old adage. We will not presume to decide, but will submit the important questions at issue to the tribunal of medical public opinion. The Michigan paper, as quoted by Dr. Yandell in his circular, says:

"Dr. Yandell attributes all skin eruptions to malaria. Quinia is a specific for malaria; *ergo*, quinia is the remedy for all skin symptoms."

Such is the allegation. Dr. Yandell hopes that his *confrères* of the press will give publicity to his correction of the misunderstanding into which his Michigan brother has fallen. We make haste to do so. Dr. Yandell's new statement is as follows:

"Malaria is the *chief source* of *acute* skin disease. Scrofula is the *chief source* of *chronic* skin disease."

In explanation, Dr. Yandell says: "*I do not claim* that malaria and struma are the *sole* causes of the dermatoses. Indeed, *many* of the dermatoses may exist *independently* of *malaria* or *struma*."

After such a luminous exposition of his views, it is surprising that any journal should attempt to discredit his theory. If malaria and struma are, and are not, the chief pathogenetic factors of skin disease, what more can be said? In our opinion, Dr. Lunsford P. Yandell has made his point good, and has so entirely settled the question of the etiology of skin diseases that all doubters must retire from the field in confusion.

DR. BEARD ON MIND-READING.

WE find in the issue of the *New York Tribune* for Wednesday, December 13, an account of mind- and muscle-reading experiments, conducted in Dr. Beard's office. A pale, delicate boy of fifteen is the subject of experiment. Dr. Beard makes some passes, and straightway the youth goes off into the somnambulistic state. Then the mind of the operator being fixed on some particular object—a piece of paper, a pin, etc.—the youth flies about the apartment, leading his experimenter by the hand, until the object is found. Sometimes there is a failure, because the operator does not fix his mind on the object sufficiently powerfully, etc. Whilst we do not pretend to doubt Dr. Beard's sincerity, or his scientific zeal, we must protest against such exhibitions being received as of medical authority. Besides the obvious dangers of deception and fraud, there are no new facts developed by such experiments. To conduct them before newspaper reporters, and a gaping multitude of *quid nuncs*, is to lower them to the level of those performances carried on by peripatetic mesmerizers, and are, therefore, as we conceive, unworthy the attention of a truly scientific expert. We observe with regret that Dr. Beard lends himself to such questionable practices. If he wishes to so occupy himself, he ought at least divest them of any supposed medical professional character.

IN another column we publish a letter from Dr. C. R. Agnew, which, it may be presumed, is an authoritative statement of the sum and substance of the arguments advanced in defence of the new Code. From time to time these "arguments" have been fully refuted in our columns, and it seems useless to seriously consider them again. Moreover, we cannot think that any number of our profession can agree with Dr. Agnew in believing that, because the legislature of New York passes a law declaring that any one possessing a diploma from an incorporated medical school, or a license to practise, is "a legally qualified practitioner," therefore we should be so forgetful of our standard of professional requirements as to go still further, and declare that we shall receive him as one of us, and thereby recommend him to the public as worthy of their confidence and support.

By some occult process of reasoning Dr. Agnew connects the new Code of his State with the beneficent workings of the laws to regulate the practice of medicine in other States, and apparently forgets

that the old Code alone is recognized by the profession in those "twenty States and Territories," including Illinois, in which these good results have been obtained. Indeed in New York the adoption of the new Code has had no effect on the prosecution of illegal practitioners, which was just as active last year under the old Code, as it is now.

The fact is no Code of Ethics has had or ever can have any legal force, and the only good ever to be obtained by a Code is in the establishment of a recognized standard of professional morals. To ask the profession to affiliate with every man whom the State recognizes as authorized to practise medicine, is to ask the profession to yield up everything which has made it honorable since "the time whereof the memory of man runneth not to the contrary."

REVIEWS.

THE PHYSICIAN'S VISITING LIST FOR 1883. Philadelphia: P. Blakiston, Son & Co.

THE PHYSICIAN'S MEMORANDUM BOOK. Arranged by JOEL A. MINER. Fifth and improved edition. Ann Arbor, Michigan.

THE PHYSICIAN'S VISITING LIST AND DIARY FOR 1883. Louisville, Kentucky: Geo. H. Dietz & Co.

WALSH'S PHYSICIANS' COMBINED CALL-BOOK AND TABLET. Seventh edition. RALPH WALSH, M.D., Washington, D.C.

THE number and variety of the Visiting Lists now offered to the medical profession are so great as to constitute a veritable embarrassment of riches. Whilst they differ somewhat in arrangement they agree in design. In some of them, the matter of engagement making and recording is the controlling idea; in some it is accurate bookkeeping; in others, besides these objects, it is sought to impart a quantity of medical knowledge. As a general rule, these ready methods for treating diseases, are misleading. It would be extremely convenient, if the physician could carry in his coat pocket, formulated rules by which he could manage every case. Unfortunately more elaborate preparation is necessary, and hence the rules of the visiting list have little adaptability. We may make an exception in regard to the method of treating poisoning, and of resuscitating the asphyxiated.

Of the visiting lists now before us, the original model, that of P. Blakiston, Son & Co., is probably the best, and most of those in the market owe their inspiration to it. Walsh's Combined Call-book and Tablet presents some special conveniences, and is a good arrangement. It differs in respect to certain original conceptions more than any of them, from the model of them all. The Louisville Visiting List and Diary has many points of resemblance to Blakiston's, and hence is, probably, so much the better.

Miner's Physician's Memorandum Book is a rather complicated arrangement, but it may be adapted to any of the Physician's engagements or business. It is no doubt very complete, and must be useful in a high degree to those who require such a pocketbook.

Any of the "visiting lists" now offered to the profession must answer a useful purpose, and accomplish the purpose for which intended.

SOCIETY PROCEEDINGS.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday evening, December 7, 1882.

VICE-PRESIDENT, T. M. DRYSDALE, M.D., IN THE CHAIR.

DR. T. M. DRYSDALE reported the following case of

UTERINE MYO-FIBROMA.

An unmarried lady, 31 years old, of Trenton, N. J., consulted me January 18, 1879, as to the advisability of an operation for the removal of an abdominal tumor. On examination it proved to be a uterine fibroid, hard, smooth-walled, and moderately movable. It filled the lower part of the abdomen and extended upwards to about an inch above the umbilicus. A peculiar feature in the case was the presence in the lower part of the tumor of a large vessel with an aneurismal thrill, which could be felt through the upper part of the left side of the vagina. As her general health was good, the tumor producing no inconvenience except by its size, and the menses regular in every respect, I advised against an operation and directed her to take chloride of ammonium in ten-grain doses three times a day, and, at her menstrual period, 30-drop doses of the fluid extract of ergot at the same intervals.

She continued this treatment for two years, the tumor in the meanwhile slowly increasing in size. At the end of this time, finding no diminution in the size of the growth, and becoming discouraged, she abandoned all medicines. The tumor continued to grow steadily, but became much softer in its upper portion. An examination made, December 9, 1881, showed the tumor growing in all directions. It now projected into the pelvis behind the uterus, filling this part with a hard, nodulated mass; while above, as has been stated, it continued to soften as it ascended, giving it the feel of a cystic growth.

From this time it continued to grow rapidly, and by July, 1882, it was pressing against the liver and filling the whole abdomen, except the epigastric and left hypochondriac regions. Her general health was seriously impaired, and she had emaciated considerably. On examination I found the uterus displaced towards the right side: the sound entered five and one-quarter inches in the same direction. When in the uterus the sound did not follow closely the motions given to the tumor, while the tumor itself was found to be more fixed. The aneurismal vessel had enlarged considerably, and the thrill was much stronger.

Although I had dwelt upon and fully acquainted her with all the dangers of such an operation, yet she was very anxious to have the tumor removed, and as delay increased the danger, I proposed an exploratory operation with the understanding that if the tumor could not be taken away with ordinary safety, it should be left undisturbed, but in that case, if possible, the uterine appendages should be removed and the arteries in the broad ligaments tied.

The operation was performed November 2, 1882, in which I was assisted by Drs. W. P. Buck, W. S. Stewart, L. Harlow, of this city; Dr. I. Shellenberger, of Germantown; Dr. I. Eshelman, of San Francisco, and my son. An incision was made through the abdominal wall, midway between the umbilicus and pubis, of about three inches in length, down to the peritoneum, which was cautiously opened exposing a dark-red tumor with a rough surface. The structure of the tumor was soft, and it appeared highly vascular. Fearing to tear it, I passed my hand with extreme caution between it and the abdominal wall down towards the usual loca-

tion of the ovaries, but could not reach them. Great difficulty was experienced in doing this, owing mainly to the rigidity of the abdominal walls, which kept them in close apposition to the tumor, and it required the exertion of considerable force to separate them. While thus attempting to reach the ovaries I unfortunately tore a small opening in the upper surface of the tumor from which the blood flowed freely. It was found that this bleeding could only be controlled by pressure, for the structure of the growth resembled a sponge, and was so soft and easily torn that a ligature was worse than useless, as it would cut through the loose tissue leaving a larger bleeding surface. It being impossible then to arrest the bleeding by any other means than pressure, I was compelled to continue the operation for the removal of the tumor. To do this the incision was extended to three inches above the umbilicus, and downwards nearly to the pubis. The tumor was attached above and behind to the mesentery, while beneath it was adherent to the broad ligaments and ovaries which laid under it; these bodies having been displaced to such an extent downwards and backwards as to be completely out of reach until the tumor was raised. The pelvic portion was strongly adherent to the surrounding parts. The mass was removed from the abdomen with considerable difficulty, but when this was accomplished it was seen to spring directly from the fundus of the uterus by a broad pedicle. A large clamp was applied to this and the tumor cut away. The adhesions were soft and brittle, and tore readily, leaving a rough, coarsely granular, or spongy surface, and from every adherent point poured out blood. The main bleeding was from the adhesions around the brim of the pelvis and to the broad ligaments. The tissues about these adhesions were ragged, and the vessels difficult to secure, but I succeeded in arresting the hemorrhage. On raising the intestines, which had been thrust out by the contraction of the abdominal muscles, the torn mesenteric attachment was found to be bleeding freely. This surface required a great number of ligatures.

Immediately upon the withdrawal of the tumor from the abdomen, the patient became pulseless, the skin pale and moist, and in fact all the signs of intense shock presented themselves. This was before any serious hemorrhage had occurred. The active bleeding which immediately succeeded prevented any attempt at reaction, and although heat was applied, brandy given freely by the mouth as long as she could swallow, and hypodermic injections of brandy and morphia used, she sank and died just one hour after clamping the tumor.

This case is of great practical interest in view of the strenuous advocacy by many recent writers of the operation for the removal of the uterine appendages, as a comparatively safe method of arresting the growth of uterine fibroids. It proves that in these large fibromas such an operation is not only hazardous, but may be extremely difficult, and that, in fact, we cannot even be certain that we can reach these appendages, for in this case, so completely buried beneath the tumor were the ovaries and ligaments that neither could be found until it was raised from its bed, when they were discovered adhering to its lower portion. In an operation which I performed last winter the same difficulties were experienced: the ovaries could not be reached until the tumor, which was extremely large, weighing nearly a hundred pounds, was raised out of the abdomen. These, added to many other cases which I have met with, show that in large uterine tumors the removal of the uterine appendages may prove quite as dangerous as the extirpation of the growth itself, and be utterly impracticable unless the tumor is turned out from the abdomen. Now if this should have to be done in order to reach these bodies, which would of course necessitate the detachment of adhesions and risk a shock by the disturbance caused by raising the mass, it would undoubtedly be better practice to leave the uterine appendages untouched and remove the tumor itself.

This case teaches another practical fact, which I have not found alluded to by writers on this subject, that when we meet with the soft variety of these growths, the certainity of hemorrhage difficult to control is added to the other risks of the operation, and if the character of the tumor is recognized in time, and the presence of extensive adhesions determined, the safest plan for the operator to follow is to leave the tumor untouched, and close the wound.

DR. B. F. BAER (in response to a call from the Chair) inquired of Dr. Drysdale the effects of ammonium chloride and ergot as administered by him in this class of cases. Does not ergot, when given during the menstrual flow, increase the quantity of the discharge? Does ammonium chloride have any effect in reducing the size of the tumor? He had used ammonium chloride a great deal; in fact, he gives it in every case of uterine fibroid that comes under his care, but he has not seen or expected much from its employment. He considers it an alterative; it makes the patient feel better, but he has not seen any reduction in the size of the tumor follow its use: it relieves the painful flushings connected with the existence of a uterine fibroid or the menopause. He is not very sanguine as to the effects of ergot used in any way, hypodermically or otherwise, to reduce the size of a uterine tumor, and it certainly can effect nothing in the case of a pedicellated subperitoneal uterine fibroid.

As regards the hazard of the operation under the conditions existing in the case narrated by Dr. Drysdale, it cannot be too strongly expressed; but there have been instances of recovery under conditions apparently as desperate as those just detailed. The case referred to by Dr. Harris (chairman *pro tem.*) was operated upon by Dr. Goodell. The patient was a lady of middle age, who had been suffering from profuse hemorrhage which was endangering her life. This hemorrhage was the result of the existence of a large uterine tumor, and Dr. Goodell decided to attempt oöphorectomy as a means for her relief. An incision three or four inches in length was made in the middle line of the abdomen. The large size of the tumor made it very difficult to reach the ovaries. One was, however, reached and successfully ligated and removed without causing hemorrhage, although the pampiniform plexus was very much enlarged. It was necessary, in order to reach the other ovary, to enlarge the abdominal incision and roll the tumor over. It was found and removed, but a large plexus of veins was ruptured in the turning, and the hemorrhage was frightful—the blood escaping from both ends of the vessels; ligatures were passed through the substance of the tumor and finally succeeded in stopping the loss of blood. The Doctor thought he might be compelled to remove the entire uterus to stop the hemorrhage. This had happened to Knowsley Thornton.

This patient recovered, but Dr. Baer had seen death from peritonitis result in similar cases from the exploratory incision alone, the tumor and ovaries being found to be in so vascular a condition that Dr. Goodell was afraid to complete the operation.

DR. HARRIS remarked that he was present at this operation and was a close observer. The veins were ruptured during the turning of the tumor; there was a peculiar anastomasis of the large venous trunks at the point of rupture. In this case the tumor had formed no adhesions.

Dr. Harris had been present at an operation by Dr.

W. W. Keen in a similar case. The tumor was smaller but the hemorrhages had been so profuse before the operation as to leave the patient waxen in appearance. In this case the tubes were tied close to the uterus and were removed with the ovaries.

DR. BAER remarked that Dr. Goodell had been very successful in operating by removing the ovaries for the cure of metrorrhagia the consequence of uterine fibroids.

DR. GITHENS, in answer to the first query by Dr. Baer, remarked that although not successful in relieving menorrhagia by the internal use of ergot, he had had very satisfactory results from the use of ergotine suppositories in cases in which there was no tumor present.

DR. A. G. B. HINKLE alluded to several cases in which he had used ergot for the relief of menorrhagia due to the presence of uterine fibroids; he had given it three days before the period, during, and for three days after its close; he also gave ammonium chloride in ten grain doses, three times a day, all the time. This treatment had produced undoubted effects, and in some cases the tumors had disappeared.

DR. HENRY BEATES had used ammonium chloride in the treatment of a lady who had a large uterine tumor. He continued it one year with marked effect. The menopause came on two years afterward, and the tumor has now entirely disappeared.

Dr. Beates made some general remarks about the microscopical appearance in hard and soft uterine tumors, and thought that the effect of ergot would depend upon the presence or absence of muscular fibres as a component part of the tumor.

DR. DRYSDALE, in closing the discussion, urged upon the members the desirability of limiting the operation of the removal of the uterine appendages for the cure of uterine fibroids to small tumors, or to those in the early stage and which have not commenced to undergo the softening process. He had noticed, in cases under his care, a small spot of softening begin in a previously hard tumor and progress until the change was complete. The tumor presented this evening had undergone this change, and had undoubtedly assumed a malignant type. Before the operation it felt as if it contained a fluid; since its removal it has shrunk to about one-half its original size from drainage of blood. From the description given during the debate, the tumor in the case of Dr. Goodell differed from the one presented this evening, in being much smaller and free from adhesions. The hemorrhage in his case came from a single laceration in the tumor, and could be controlled. In this case, not only did the torn substance of the tumor bleed, but every detached adhesion poured out blood in abundance.

In reply to Dr. Baer's questions, he would say that ammonium chloride in some cases of hard uterine tumors is remarkably efficacious in reducing the size of the growths; he has repeatedly seen them entirely removed by the remedy. He had never known ergot to increase the loss of blood during the menstrual period, when used for the cure of intra-mural tumors; ergot has a decided effect upon the nutrition of these growths, but he would not expect it to act upon pedicellated growths, unless inside the cavity of the uterus.

DR. HENRY BEATES had been called in consultation to see a case of metrorrhagia. Ten years previously the patient had suffered from miscarriage at the fourth month. Subsequently each menstrual period became more and more profuse and prolonged, until at the time Dr. B. first saw her the loss of blood was constant and the patient was pallid and reduced almost to a skeleton, her weight being but ninety pounds. The curette had been previously applied to the endometrium, with the effect of increasing the discharge. Dr. Beates introduced a sound which passed to the left to a depth of five and a quarter inches; he introduced a laminaria tent of the largest size, and next day, by digital examination, discovered a sessile tumor; further dilation enabled him to remove the tumor by evulsion. It was necessary to divide it to deliver it through the os uteri. It was composed of fibrous and muscular tissue, and contained numerous dilated bloodvessels which had been the source of the hemorrhage before operation. Three years afterwards the patient's weight had increased to one hundred and fifty pounds.

DR. B. F. BAER read the following report of

A CASE OF LABOR WITH TWINS.

E. O., æt. 22, and single, entered Maternity Hospital on the morning of November 2, complaining of pains resembling those of the first stage of labor, although her gestation was computed to have reached only the beginning of the ninth month. These pains, she stated, began on the previous evening. Later in the day I saw her. Inspection of the abdomen showed it to be greatly distended and irregular in shape. By palpation I could readily outline, as I thought, more than one fœtus, and by auscultation I very distinctly heard the heart-sounds of two children—one high up and to the right, the other below the umbilicus and to the left. Twin pregnancy was diagnosticated. Vaginal touch revealed the os uteri to be dilated to about the size of a silver half-dollar, the lower segment of the uterus and cervix to be rather elongated than rounded, as in a presentation of the vertex. After some time spent in deliberation a presentation of the feet was diagnosticated. The pains were not strong, and they had very little effect on the cervix. The patient was in a fair condition, though somewhat excited. Her lower extremities were œdematous, her face a little puffy, and her urine contained a small quantity of albumen. The heart-sounds of the children were strong. I ordered fifteen grains of the hydrate of chloral and twenty grains of the bromide of potassium to be given at once. This dose was repeated once during the labor. Her bowels were moved by an enema.

Three hours afterwards the os was about double the size of that found at the first examination. The pains, still feebly acting on the presenting portion, had very little dilating power. As there was no special reason why the labor should be hurried, I waited two hours longer, at which time the feet were well down in the cavity of the pelvis, and projecting through the os, though the membranes were still unruptured. As the first stage of labor had now lasted twenty-four hours, and the patient was becoming tired, I felt that something more ought to be done to expedite the delivery; I therefore ruptured the membranes. One hour more was consumed before the feet reached the vulva. I now brought down the feet by extending the legs, and in a very short time after, without the least traction, the body followed as far as the shoulders, where it was arrested by extension of the arms. The arms were brought down as speedily as possible by carrying them forwards over the face. The child showed by its movements that it was still living, and the cord was feebly pulsating. The latter was relieved from pressure as much as possible. It was imperative that the head should be extracted speedily, or the child would die, but for some reason it would not descend. I at once recognized that the head was extended, with its long diameter in the conjugate of the superior strait, and that it was not yet fully freed from the grasp of the cervix, as the cause of the delay. I tried to flex the head and place it so that one of its antero-posterior diameters should correspond to the transverse of the superior strait, but could not, because, as I now recognized, the presenting portion of the second child was in the way. I could not reach high

enough to bring the proper force to ensure flexion of the head. I now very easily and quickly adjusted Simpson's forceps, when, by giving a slight oblique turn and carrying the handle of the instrument forwards, the head flexed and delivery followed almost immediately. Certainly, I think, not more than ten minutes elapsed from the time the body was expelled as far as the shoulders until the head was delivered. The child was alive but in an asthenic condition, and, although the usual efforts at resuscitation were applied, it died soon after.

Examination now revealed a presentation of the right shoulder of the second child, and that the presenting part was projecting through the superior strait. The membranes were unruptured. Version by the vertex was performed by the bimanual method, the uterus stimulated by friction and pressure on the fundus and the membranes ruptured. But the uterine contractions were very feeble, and it was some minutes before the head was secured from returning to its former position in the left iliac fossa, by having passed through the superior strait.

The uterus was now left to rest with the hope that it could spontaneously regain enough power to expel the remaining child; but after waiting nearly an hour, and finding that the head had advanced very little, a drachm of the fluid extract of ergot was administered *per orem*. This gradually spurred the uterus, and within thirty minutes afterwards the second child was born, or one hour and a half after the birth of the first. The uterus was so much exhausted that it was with difficulty made to contract by friction and pressure on the fundus, and it would relax again almost immediately afterwards. There was no evidence of separation of either placenta, in part or entire, because there was no hemorrhage. Therefore I concluded to let the organ rest for a time for the purpose of recuperation. I waited more than half an hour, of course not disregarding the liability to hemorrhage, open or concealed, and looking out for it. By this time the uterus was contracted pretty firmly around the placentæ, which were attached in the neighborhood of the right cornu. I now tried again, very thoroughly, to express them by the Credé method, but failed. Traction on the cords seeming to indicate that the placentæ were adherent, the only thing left to be done was the introduction of the hand. This I did with considerable difficulty. The uterus was firmly contracted at all points, except in the right upper portion, where it seemed to be paralyzed or prevented from contracting by the presence of the placentæ. This gave to the organ the so-called hour-glass shape. The placentæ were both adherent. I separated and withdrew them slowly, and held the emptied portion firmly by the external hand until contraction was secured. There was no further difficulty, and the patient left the hospital at the usual time.

I think the following points in the case of sufficient interest to warrant me in asking the Society's opinion on them:

1. The conduct of the first stage of labor. Ought I to have hurried it more, and thereby prevented exhaustion of the uterus? I think not. As it was, the os was not sufficiently dilated to allow the head to pass readily.

2. The delivery of the after-coming head. Placing the antero-posterior diameter of the child's head in the transverse diameter of the superior strait, and facilitating its passage, if necessary, by external pressure on the fundus of the uterus, the method so graphically described, and so earnestly and properly insisted upon by Prof. R. A. F. Penrose, as the proper plan of managing the head in ordinary breech presentations, was impracticable here, for the reason that the second child was in the way, both of placing the head transverse and of external pressure. Manual or forceps action on the head was the only resort. That I did not at once apply the forceps I am sorry, for delivery three minutes earlier might have saved the life of the child.

3. The choice of ergot in preference to the forceps as a means of facilitating the delivery of the second child. The administration of ergot for the purpose of expediting the delivery of the child cannot be too strongly condemned, as a broad rule, but that there may be an occasional exception I think must be admitted, and also, that this was one. The os and other soft parts were dilated by the passage of the first child; the pelvis was sufficiently capacious, the presentation and position normal. There was, therefore, no obstruction to the rapid passage of the child were the power furnished by the action of the ergot. Moreover, that the uterus was worn out, and wanted time and stimulation to recover, was proven by the history of the labor, as related. There would have been great danger of hemorrhage had the forceps been used to rapidly empty the uterus.

4. Morbid adhesions of the placentæ, causing irregular contraction of the uterus, or contraction of the organ in every portion, except opposite the attachment of the placentæ, where the contraction was not strong enough to separate them, giving the so-called hour-glass form to the uterus.

5. What influence had the ergot, if any, in inducing the irregular contraction? From my own experience, I would answer that I do not think it had any; first, because I almost always give ergot as soon as the child is expelled, and before delivery of the placenta; and, second, because I have never met with irregular contraction of the kind under discussion except in cases where the placenta was morbidly adherent.

The question, May ergot complicate the third stage of labor, by acting on the circular fibres of the uterus, at the internal os for instance, independently of the oblique and longitudinal fibres, incarcerating the placenta thereby? I should like to hear discussed. I take a negative view.

6. The presentations were unusual. The first child usually presents by the head, the second by the breech or feet. In this case the first presented by the feet, the second by the shoulder.

They were both males, and weighed conjointly twelve and a half pounds. The first child was the smaller of the two. This is unusual.

DR. HARRIS had had under his care a woman in labor with twins. The first one delivered was a female weighing eight pounds; it presented by the breech. After it came away the os uteri and soft parts contracted, and an examination made by one who did not know of the delivery of the first child, would not have discovered evidence of the fact but for the presence of the child. The bag of waters presented, and the os uteri was again dilated. Three and a half hours after the birth of the first child the second, a male, was delivered by the assistance of forceps; its weight was nine pounds.

DR. HORACE WILLIAMS related his experience in a case of twins. The first child descended in the fourth position and no rotation occurred, as it was held so by the second child; the pelvis was roomy, but laceration of the perineum resulted.

DR. B. F. BAER also reported the following

CASE OF UTERUS SUBSEPTUS, COMPLICATING THE THIRD STAGE OF LABOR.

Through the kindness of my friend, Dr. T. Stanton Crowley, I was permitted, on Nov. 29, 1882, to see the interesting case which I here briefly describe.

Mrs. M. G., æt. 24, was delivered two hours before I

saw her of her fifth child, after a rather tedious labor, in which the breech presented. The placenta was delivered with some difficulty about half an hour after the expulsion of the child; but the membranes were retained by what was supposed to be an hour-glass contraction of the uterus, or contraction of the internal os.

I found the uterus well contracted, but somewhat irregular in shape, as felt through the hypogastrium. The internal os was contracted closely around a portion of the amniotic sac, which was projecting through it. I gradually passed one finger and then two through the os, and found that the membranes were pressed upon and retained by a firm substance, which obstructed the passage. After still further dilating, I tried to pass my hand, or as much of it as was necessary to reach the membranes, which I traced to the left cornu. In doing so my thumb was directed to the right, by the obstruction above mentioned, and passed into another cavity, independent, apparently, of the one in which my fingers were. The latter cavity was comparatively large and contained the membranes. My first impression was that I was grasping a fibroid tumor which had been flattened by pressure, or possibly a supplementary placenta, which was detached and lying edgewise, but the result of further investigation proved that it was neither. I next removed the membranes—nearly the whole of the fœtal sac—and then made a more thorough examination. Again passing my hand partially into the uterus, whilst with the external hand I made counter-pressure on the fundus, my fingers entered a comparatively large cavity towards the left. This was rough—placental site—and cylindrical in shape. My thumb, as before, passed to the right and into another cylindrical cavity, small, compared to the left, and smooth. Grasping the septum which separated my thumb and fingers, I found that there was a complete division of the uterine cavity into two unequal parts. The septum was wedge-shaped, with the blade of the wedge below, ending at the internal os, and, therefore, not dividing the cervical cavity. Externally the organ was not perfectly symmetrical and smooth, but at the point opposite the septum a slight depression was felt.

This is the *uterus subseptus unicollis* of Küssmaul, or a uterus which is divided in the cavity of the body only, the septum stopping short at the internal os, not dividing the cervical cavity therefore. The slight sulcus on the external surface makes it approach the form described by the same author as the *uterus bicornis subseptus unicollis*.

I now became interested in the history of the former gestations and labors of our patient, and learned that this was her fourth labor and fifth child.

The first was a twin-pregnancy, and terminated in premature labor in the seventh month. There was an interval of more than an hour between the birth of the first and second child, and another interval of fifteen minutes between the expulsion of the placentæ. And they did not have even a membranous connection. Did each cavity have its own independent ovum, therefore? Not necessarily, but it is highly probable, because, as a rule, the placentæ of twins have a membranous connection at least, and in those uncommon cases where they are entirely separate, may not each fœtus have had its own independent chamber furnished by one of the forms of double uterus?

The second and third gestations went to term, but the labors were both complicated, requiring the aid of the forceps to supplement the imperfect expelling power of the uterus. We can readily understand why the uterine force was not applied to the best advantage on the fœtal ellipse in a case of this kind.

The fourth and last labor was complicated in its third stage in a manner which is new to me.

May not some other of the complications of the third stage of labor be due to an undetected malformation of the uterus, resulting from arrested development? For instance, the perfect hour-glass shape which a few observers are sure they have met with. The uterus bicornis subseptus, a form of malformation where the horns diverge, and where a septum extends into the cavity, dividing it into two, furnishes a case in which the finger would encounter a point of constriction before it could enter the cavity containing the placenta; and externally the hand would detect the apparent constriction at the bifurcation of the cornua. But you will answer that bicornate uterus is very rare. So is perfect hour-glass contraction of the uterus; and the malformation of the uterus might not be so rare as supposed if it were detected in every instance where it exists.

"Busch mentions a case of uterus bicornis septus, in which an exhausting hemorrhage occurred, in consequence of the attachment of the placenta to the septum, which, not contracting, the vessels remained open." (Klob.)

This malformation may account for some of the cases of super-fœtation, and menstruation during the early months of gestation. In this case the catamenia were absent during the whole of every gestation.

DR. R. G. CURTIN had this morning delivered a woman of twins; after the uterus was emptied and well-contracted, a strongly-marked sulcus could be felt in the fundus.

DR. DRYSDALE has under his care a woman whose uterus is divided by a complete septum.

DR. W. S. STEWART inquired if any previous examination indicated a want of symmetry, or if it resembled an extra-uterine pregnancy.

DR. BAER had not seen the patient until after the delivery of the child, and did not ask about the point mentioned by Dr. Stewart. Dr. Goodell has reported a case of supposed extra-uterine gestation in which labor came on naturally. This type of uterus may seem to be very rare because it is so difficult to recognize. The presence of the septum would never have been suspected in this case had it not been found in the attempt to remove the imprisoned placenta.

DR. HARRIS said that Dr. Goodell was uncertain of the character of the pregnancy, although every diagnostic test but one indicated that it was extra-uterine. This exceptional condition was the sensation of muscular contraction in the presumed cyst-wall when the hand was applied to the abdomen. Not being able to reconcile this action with the development of a tubal pregnancy, he determined to trust the case to nature, and sent the woman to the Preston Retreat, where she was delivered naturally in a few days. The uterus was double and was twisted on its axis, and the empty cornu was posterior, admitting the sound in the median line as into an empty organ.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, November 23, 1882.

THE PRESIDENT, JAMES TYSON, M.D., IN THE CHAIR.

DILATATION AND ATHEROMA OF THE PULMONARY ARTERY, WITH AN OPENING THROUGH THE INTERVENTRICULAR SEPTUM.

Presented by DR. BRUEN.

Examination of the Heart.—Left side: Slight ventricular hypertrophy; mitral valves somewhat thickened at the margins, with roughening of their auricular aspect; valves competent; the left auricle is normal, as is also the aorta and the aortic valves. Examination of the right side is of most interest. (1) Two of the semilunar leaflets at the mouth of the pulmonary artery are nearly destroyed by atheromatous changes; the third segment

is much thickened, and projects as a leaf-like fold, roughening the mouth of the pulmonary artery. This vessel is dilated to nearly twice its normal size, forming really an aneurismal dilatation. The vessel's walls are covered with a fringe of vegetations of inflammatory origin, or due to atheromatous changes. The right auricle is very small and imperfectly developed, the bulk of its cavity being formed by the auricular appendix. The tricuspid valves are much thickened, but are competent, probably. Between the two ventricles is an orifice large enough to admit the forefinger; it is directly beneath one of the tricuspid leaflets, and is lined with endocardium, and must have allowed a free interchange between the blood of the two ventricles. The walls of the right ventricle are thinned, and its cavity somewhat dilated. Dr. Bruen said that this case was interesting because perforation of the ventricular septum is often congenital and dependent on obstruction of the orifice of the pulmonary artery, the perforation being due to the pressure of blood within the replete right ventricle. This pressure causes an arrest in the development of the ventricular septum. The pathology of the present case probably is as given above, but there was no pulmonary artery obstruction. A similar case is recorded in the *Medico-Chir. Trans.*, vol. xv., by Fletcher. (2) There was no cyanosis—cyanosis is usually dependent on a deficiency of cardiac evolution, or else on retarded evolution of the pulmonary artery or aorta. As a consequence, there is deficient cardiac power to carry on the circulation; or the pulmonary artery or aorta is narrower than normal, so that in any of these conditions venous repletion results and cyanosis. (3) Mixture of venous and arterial blood is the not usual cause of cyanosis, although it may be a factor. Walsh says, "Grant that perforations of the ventricular septum coexist with constriction of the pulmonary orifice, and cyanosis seems to become a certainty." In our case there is an example of incomplete development of the ventricular septum, and deficient development of the right auricle, without cyanosis. Pulmonary artery disease is consistent with a fair amount of general health; compensation by the right heart may occur just as in cases of aortic disease. (4) Descriptions of pulmonary artery disease call attention to bronchitis, pneumonia, hydrothorax, as sequential states. In our case, no such complications were present until just before death, when she finally succumbed to congestion of the lungs, added to the cardiac state. (5) The aneurism of the pulmonary artery formed a pulsating tumor on the left side of the sternum, between the second and fourth ribs, extending outward from the border of the sternum, and including an area covered by a trade dollar. (6) Over the solid tumor a post-diastolic and presystolic bruit-like murmur could be heard at a point between the second and fourth ribs; while close to their junction with the sternum a hoarse, systolic murmur could be heard. The bruit was localized. The heart systolic murmur was carried on into the entire arterial system. Dr. Bruen then detailed at length the differential diagnosis of these murmurs. During life, dilatation of the pulmonary artery with abnormal obstruction had been the diagnosis. The patient was a woman, æt. 26 years, a syphilitic, and was under observation from November, 1878, to July, 1882.

DR. ESKRIDGE had not had any difficulty in differentiating a presystolic from a diastolic murmur. He thought the leathery thickening of the mitral valves in the specimen presented by Dr. Bruen was sufficient to give rise to a mitral presystolic murmur. If we adopt the theory of Dr. Austin Flint, Sr., that a mitral presystolic murmur may occur in aortic regurgitation, when the mitral valves are perfectly healthy, it seemed to him that there was no difficulty in accounting for the presystolic murmur from the regurgitant blood from the pulmonary artery into the communicating right and left ventricles of this case, especially as thickening and loss of elasticity, with some rigidity of the mitral valves, existed.

DR. WILSON called attention to the evident relation between the incomplete ventricular septum and the condition of the pulmonary artery, which is greatly dilated and atheromatous and presents the appearances often met with in the aorta, very rarely in this vessel. The wall of the right heart is relatively thickened. This fact, together with the position of the opening in the interventricular wall which favors the flow of the blood from the left ventricle towards the pulmonary artery, renders it probable—almost certain—that the more forcible contraction of the left heart was constantly forcing a portion of its arterial blood into the right heart, thus increasing the current entering the pulmonary artery, and occasioning, first, hypertrophy of the right ventricle, and, second, a sub-acute inflammatory process in the pulmonary artery itself, in consequence of the increased volume and force of the blood-current. Dr. Shakespeare's observation that such growths as are here seen require for their existence arterial blood, is in accordance with this view.

SARCOMA OF THE PROSTATE GLAND,

Presented by DR. E. W. HUGHES.

The specimen which I have the pleasure of presenting to you this evening, was taken from a patient in the University Hospital under the care of DR. H. R. WHARTON.

W. E., aged thirty-five years, admitted to the University Hospital, suffering from retention of urine. Before his admission numerous unsuccessful attempts had been made to empty the bladder by means of a catheter. On admission the patient complained of much pain in the hypogastric region, which was the seat of a smooth, rounded swelling, reaching almost to the umbilicus. He stated that he had gonorrhœa some years previously, which had been prolonged into a troublesome stricture, which had been perfectly relieved by the passage of bougies. For more than a year previous to his admission he had suffered at regular intervals from difficulty in urination. The urine had never been bloody, but its passage had often been attended by great pain. It was found impossible, on account of numerous false passages, to introduce a catheter into the bladder. On introducing a finger into the rectum the prostate was felt smooth, rounded, and immensely enlarged. The patient was put to bed, ordered a suppository of belladonna and opium, and to have a warm poultice applied to the abdomen, this treatment relieving him almost immediately, and urination became freer. For a few days he did well, but the difficulty in urination soon began to increase, and by the fifth day after his admission the symptoms had become so urgent that it was deemed advisable to repeat the attempt to pass a catheter. This attempt was as futile as the first. Then aspiration of the bladder through the abdominal walls was attempted, but only a small quantity of blood was obtained.

In introducing the canula it gave the sensation of passing into a solid body, and careful palpation revealed the fact that there really was a solid body apparently occupying the whole bladder. It was now decided to open the urethra at the base of the bladder through the perineum, and the operation known as Cock's was selected. The operation was followed by the escape of a small amount of urine. After this, the patient did well, with the exception of an attack of dysentery, until the ninth day after the operation, when peritonitis suddenly developed. He died on the following day.

Autopsy (two hours after death).—Upon opening the abdomen, a thick yellowish-red purulent liquid, having a urinous odor, was found bathing the intestines, the walls of which were everywhere bound together by recent adhesions. The omentum was in places firmly adherent to the intestines, and contained numerous irregular nodular masses, varying in size from that of a pea to that of a hen's egg. These masses on section presented a violet-yellow color. In the lower part of the abdominal cavity was a large irregularly-shaped mass, firmly adherent to the small intestines, colon, omentum, and walls of the pelvis. On careful dissection a tumor was found to originate in the prostate gland. On section it presented in parts the characteristics of scirrhus, in others those of encephaloid; in other places there were loculi, with reddened irregular friable walls filled with a fluid similar to that found in the abdominal cavity, though no connection between these loculi and the abdominal cavity could be found. No trace of normal prostate gland nor seminal vesicles could be discovered. The bladder, containing a few ounces of urine, was found in front of the upper portion of the growth, its upper boundary almost on a line with the umbilicus. Its anterior wall was apparently perfectly normal; its posterior wall, resting on the tumor, was thickened, raised, red, and velvety. The ureters were normal and opened in the usual position. The urethra, as far as could be seen, ran along the anterior surface of the tumor, and was not involved by it. The weight of the growth was five pounds two ounces. The kidneys, stomach, lungs, and intestines were normal. The peritoneum and capsules of the liver and spleen contained several secondary growths. The brain was not examined. Microscopic examination showed the growth to be a typical small round-celled sarcoma. The secondary deposits were similar in structure to the primary growth. The submucous and muscular tissues of the bladder walls were somewhat infiltrated. The growths in the capsules of the liver and spleen had commenced to penetrate those organs.

MELANOTIC SARCOMA OF ORBIT, WITH METASTASIS TO LIVER, ETC.

Presented by DR. SHAKESPEARE.

The patient was an elderly woman who had been operated upon by Dr. Heyl at the Episcopal Hospital some six months before death; the whole contents of the orbit having been then thoroughly removed. Recurrence took place, the cavity being filled with a black fungating mass; the left nostril gave vent to a blackish discharge, and the various internal organs became involved, notably the liver. Death took place from exhaustion. Most of the metastases were entirely melanotic, but some in the liver showed at their periphery a distinct whitish zone. Dr. Shakespeare remarked upon the singular fact that orbital growths were usually melanotic, although they might not spring from the choroid coat of the eye as in this case, where all pigmented structures had been removed months ago.

CORRESPONDENCE.

THE NON-IDENTITY OF CROUP AND DIPHTHERIA.

To the Editor of THE MEDICAL NEWS.

SIR: In reply to Dr. MacGillvary's letter in your issue of November 11, I can only repeat with Locke, "Let us define our terms." The whole dispute concerning diphtheria and croup arises from looseness and ambiguity of expression. The word "croup" is used very vaguely by the lay public, and even by a majority of the medical profession. Three distinct diseases are in fact covered by the term in its popular meaning, viz., (*a*) catarrhal laryngitis, (*b*) laryngismus stridulus, and (*c*) membranous inflammation of the larynx, which is, in my opinion, identical with diphtheria. Dr. MacGillvary appears to rest his view of the duality of the diseased condition on the presence of an infective property in diphtheria which he supposes to be wanting in croup. If false membrane is confined to the small area of a child's larynx, there is undoubtedly less chance of the disease being transmitted than when the much larger surface of the pharynx is covered with the *materies morbi*. It is, however, extremely rare to meet with a case in which the larynx alone is the seat of the disease. When, on a recent occasion, circulars relating to this question were addressed by the Medico-Chirurgical Society of London to members of the profession throughout this country during the many months the committee was sitting, not a single patient could be discovered who was suffering from false membrane limited to the larynx. To this I may add that during my own experience, which extends over five and twenty years, I have never met with such an instance, and I believe that when practitioners have imagined that they had to deal with membranous laryngitis the cases have in reality been examples of acute catarrh without exudation. The tendency to spasmodic affections in children, so familiar to every practical physician, is shown in the larynx, even where there is no congestion of its lining membrane. If inflammation occurs, spasm is almost certain to supervene, and this symptom is brought into great prominence, owing to the extreme narrowness of the glottis in young subjects, even in its natural condition.

It is obvious, therefore, that mistakes in diagnosis, involving the very essence of the affection, may easily be made. Your obedient servant,

MORELL MACKENZIE.

HARLEY ST., LONDON, Nov. 30.

THE NEW YORK CODE.

To the Editor of THE MEDICAL NEWS.

SIR: In your brief comments upon my note to the *Louisville Medical News*, touching the existing New York Code of Medical Ethics, you quote from the editorial comments of that journal as follows: "We imagine the thoughtful reader will find no little difficulty in following Dr. Agnew through the premises which seem to have led him to the conclusion that to protect the public from quackery the medical profession should take the quacks into fellowship and thus publicly recognize them as physicians worthy of confidence and affiliation." It will take the intended sting out of the comment if I simply say that I have nowhere said anything that might fairly, even with the exercise of the imagination referred to, be construed into any such proposition. The existing Code in my State contains the following clauses: "Members of the Medical Society of the State of New York and of the medical societies in affiliation therewith, may meet in consultation legally qualified practitioners. Emergencies may occur in which all restrictions should, in the judgment of the practitioner, yield to the demands of humanity." Now, you will observe, that the first clause is permissive, not mandatory, and any member of the State society, or of affiliated societies, may avail himself of the liberty accorded or not, as he chooses, and its operation is confined to *legally* qualified doctors. The second, or emergency clause, as it has been called, simply authorizes a practitioner to answer any call, regardless of whom he may come in contact with, regardless for the moment of the character, even, of that person, and bent only on doing a humane act. It is, of course, inferred that a member of a learned profes-

sion is sufficiently familiar with English to know the meaning of the word "emergencies." Nowhere is it proposed to take quacks into "fellowship." Fellowship means "companionship," "association," "confederacy," "communion," "intimate familiarity."

A legally qualified practitioner may, it is true, be a quack, if we adhere in strictness of definition to the accepted etymology of that word, but not one in the eyes of the law. A quack by nature is a "boaster," a "bouncer," a "noisy, ostentatious talker," as when a man parades his virtue and decries that of other men; a pretender to medical skill, "quacking, ducklike, about his cures," "an ignorant practitioner," an "empiric."

In the State of New York the statutes are such that if any man should apply the opprobrious term of "quack" to a man possessed of a diploma duly obtained from an authorized college, he might be made to smart in exemplary damages for it, even though the person so characterized were a "homœopathist" or an "eclectic."

The writer in the Louisville journal goes on to say that "the great principles of ethics and morals are immutable, and are altered neither by longitude nor latitude," etc. I suppose that we may take it for granted that no one will deny the idea of the principle of abstract right and wrong, which the writer probably intends to assert. The only real test, after all, in morals, is "What saith the Lord?" and we cannot get away from the correlative fact that "Where the spirit of the Lord is, there is liberty." I would like to know what violation of *good morals* there would be in my meeting in consultation, for a beneficent purpose, in the State of New York, a man pronounced by the authority of the State to be a "*legally qualified practitioner.*" We must bring the matter down to some such simple test. I am not compelled to meet any one in consultation. I may, for reasons personal to myself, refuse to meet the very embodiment of all the native qualities of Hippocrates, but I will, at my peril, refuse to meet a "legally qualified practitioner," if I couple with my declination, the assertion that he is a quack. Such a person suing me for libel in the courts of the State of New York would easily get exemplary damages; indeed, such decisions have been made, and I am glad of it, as it marks a step of progress from barbarism and mob law, and in the direction of teaching men to bridle their tongues. Things are said in medical journals, and elsewhere, in apparently safe retreats, which the writers would not dare to utter in the presence of the individuals at whom the acrimonious utterances are directly or indirectly aimed, or in the presence of an officer of the law.

You say also, "Dr. Agnew unfortunately fails to point out how the new Code is going to influence these reforms," etc., etc. I have repeatedly endeavored to show how it may do so, but especially by displacing the old Code, and no one is more conscious than myself of the imperfection of my attempt, or of the general feebleness of my advocacy. Fortunately, however, a good cause has germinal qualities of its own, which cannot often be roasted out of it by the heat of controversy, or blasted by the insufficiency of its adherents and advocates. So long as we attempt to defend the public against quackery by mere proscriptive codes of our own professional making, we are attempting, as it were, to put out a fire with a garden syringe. Every one knows that the old Code had lost its punitive power with the very growth of society, advance of legislation, and practical ethics. In attempting to assert this I laid myself open to the strictures of my *Louisville Medical News*' critic. When the State undertook to express, in the form of statutes, as in my State in the statute of 1880, what a legally qualified practitioner was, that moment all definitions in our old Code as to what a legal doctor was, which conflicted with the statute, became inoperative and cumbersome, if not ridiculous.

It is a great step in the right direction to have the State assume the responsibility of determining who a legally qualified doctor is. Now, what are we to do in the State of New York? Practise under the law, and by experience of its workings learn to make it better. Enforce the law as it is, and have it amended whenever defects are discovered.

This course is being pursued with more or less success now, not only in New York, but in over twenty States and Territories of the United States. Nearly two thousand medical tramps have been driven out of Illinois alone, by the operation of its registry law. The paragraph on page 699 in your issue of the 16th, shows what we are doing in New York.

We intend to make it too hot here for quacks and outlaws, and trust that after Pennsylvania sees how well the law works your journal may advocate the enactment of a similar law, or a better one. We cannot, in our State, have the *imperium in imperio* certain to result if the State Society which derives its life and authority from the State is practically in opposition to the State. Especially is this so when the latter goes as far as public opinion has demanded in fixing the legal qualifications for practising medicine. We must, with the whole body of legally qualified doctors, sustain the State law and cultivate public opinion as rapidly as possible to make the law better and better. We will give great aid, moreover, by pushing on reforms in medical education, and supplying from our medical schools a better type of doctors as instructors of the people. We wish to encourage, in every way, rivalry between the States in perfecting laws against quacks till we reach a point where a quack will become a mere tramp. Results thought by many to be as utopian have been accomplished. We need, at the same time, each man for himself to examine his own conscience to see how far he may be, at heart or in acts, more or less a quack. Do we never boast or talk ostentatiously about ourselves and decry our medical neighbors? Do we never in medical journals or elsewhere pretend to have virtue and skill which we do not really possess? Let us remember the fable of Valentine and Orson. Let us hold up in our own lives the "burnished shield" of evidence and conquer our brother by the reflection of his imperfections. If we self-called regulars were ourselves less marred by the blemishes we see in quacks, we perhaps might do more good in leading legislators to embody true reform, and high ideals, in better laws for the public good.

Yours faithfully,

C. R. Agnew.

New York, December 17, 1882.

OBITUARY.

JOHN FORSYTH MEIGS, M.D.

Dr. Meigs died in this city on Saturday, December 16th. By his death Philadelphia has lost one of her most eminent physicians and upright men. It is a great loss. Even in so large a community as this no one is so high or so pure as not to have been strengthened and encouraged by the example of such a life as his.

Dr. Meigs was a son of the late eminent professor of obstetrics, Dr. Charles D. Meigs, who gladly took advantage of the disposition to study medicine which this one alone of all his sons exhibited. Perhaps, afraid that he might, as he grew older, find stronger attractions in a different field, his father placed him as a mere boy in the medical department of the University of Pennsylvania. The writer of these lines well re-

members his more than boyish appearance on the benches of the lecture-room, and his grave and absorbed expression while listening to the eminent teachers who filled the chairs of the school from 1834 to 1838, the year of his graduation, when he was but twenty years of age. It always appeared to the writer a serious error, the commission of which, by a man of such varied learning and elegant tastes as the elder Meigs, was difficult of explanation. A powerful motive must have determined him to urge his young son to enter upon the most difficult, because the most exhaustive, of professional studies, without either the maturity of mind, or the liberal education which fitted him for the investigation of medical subjects. Possibly, probably even, it was the father's anxiety that the beginning of his son's career should be guided and supported by himself, which caused him to burden so immature a youth with the grave and difficult matters that abound in medicine.

Fortunately, the son was very unlike the students who surrounded him, and from whom he kept almost entirely aloof, devoting himself with serious assiduity to his medical studies.

In this narrow and perhaps tedious road he betrayed no weariness or impatience, for he had not inherited the impulsive ardor or the sensitive genius of his distinguished father, but delighted, rather, in steadily hewing his way forward through all the obstacles that opposed him.

Immediately after graduating in medicine he was elected a resident physician of the Pennsylvania Hospital, and there the writer, who had been studying abroad, first knew him personally and as a colleague. For a year these two young men occupied the same room in the hospital, and formed a friendship that never failed until it was broken by death. The frank, simple, and steadfast character of young Meigs inspired his companion with affection for him; and his zeal in gaining knowledge, and his devotion to his duties, were then as conspicuous as they continued to be throughout his professional career of more than forty years. On quitting the hospital, he spent more than a year abroad, paying, indeed, some attention to medicine, but still more to the interesting objects of an European tour.

On his return he at once began the practice of his profession under the eye of his father, who gave more or less into his charge the younger members of the numerous families he attended. He entered zealously into the work, not as a mere practitioner, but also as an observer of disease, recording minutely the history of every case, so that in the course of a few years he accumulated a large mass of material which formed the basis of his lectures and of his work on the "Diseases of Children." This treatise established his reputation in connection with the department of medicine to which it belongs, and was at first, as it still continues to be in its seventh edition, the best work upon the subject in the English language. By degrees his practice, no longer confined to persons of tender age, embraced the older members of the families who had received innumerable proofs of his conscientious and unsparing devotion and his remarkable practical tact and skill, and then expanded beyond this personal limit, until both time and strength failed him to respond to all the demands upon his services, which were also constantly required in consultation.

On several occasions the health of Dr. Meigs suffered under this excessive strain, and obliged him to suspend his active labors. Again and again he was warned against so lavish an expenditure of his powers, but no warning or persuasion availed permanently, or in any great degree, to lessen materially his professional ardor and industry. His work had always been the passion of his life, and his death by devotion to it became a martyrdom.

The most important public office held by Dr. Meigs was that of attending physician to the Pennsylvania Hospital. He performed its duties for twenty five years with great devotion and enthusiasm. He perhaps cherished them above all other professional occupations, and took especial pains with his clinical lectures, which were as remarkable for the personality that pervaded them as for the soundness of the practical lessons in which they abounded. A number of them which were published from time to time are distinguished by these characteristics.

In earlier life he was one of a corps of lecturers known as the "Philadelphia Association for Medical Instruction," in which he at first gave several courses of lectures upon the diseases of children, and afterwards upon "Practice of Medicine." These lectures were the original and formal foundation of his published treatise already mentioned. He also produced a number of occasional papers, among which may be mentioned those relating to the "Blood in Malarial Diseases;" "Coarctation of the Aorta;" "The Use of Cold Water;" a "History of the Pennsylvania Hospital," and a "Life of Dr. Charles D. Meigs." The last of these was prepared for the College of Physicians.

The fatal illness of Dr. Meigs was due to a pleuropneumonia, involving originally the left lung, but soon extending to the right also. It terminated his life on the sixth day of his confinement to bed.

The sadness inspired by the death of Dr. Meigs is not mitigated by the knowledge that he has fallen a victim to that peculiarly American habit of life in which a maximum of labor is associated with a minimum of recreation, and whose object is too often attained when the capacity of enjoying it is exhausted. A life more evenly balanced by pleasure and toil would certainly have been a happier one to our lost friend, and probably would not have been so abruptly and prematurely ended.

SIR THOMAS WATSON, BART., M.D.

A cablegram of December 12th, announces the death, in London, of Sir Thomas Watson, Bart., M.D., Physician in Ordinary to the Queen. He had reached so advanced an age, and had so long ceased to appear in print, that those who remember Watson as the author of a text-book on practice with which they were introduced to the subject, may experience a feeling of surprise that he has lived up to the present time. He was born in 1792, and was educated at Cambridge, where he took his B.A. as tenth wrangler in January, 1815. He was 27 years of age when he began the study of medicine at St. Bartholomew's, and became M.D. in 1825. He was first appointed to the Middlesex Hospital, and afterwards to King's, where he delivered the course of lectures which made him famous when published in the *Medical Gazette* in 1844. These lectures, known as "Watson's Practice," became at once immensely popular. Their simplicity and elegance of diction, the scholarship without pedantry, displayed, and the admirable clinical skill which characterized them, were the distinctive features which rendered them a universal favorite. Besides the numerous editions in England, there were a great many reprints in this country. The great excellence of Watson's Practice was not the sole cause of its popularity; it must be remembered that at that time there were few candidates for professional favor in this department of medical knowledge. However, no amount of competition in the same field would have prevented the success of such a work. In 1859 Dr. Watson was appointed extraordinary physician to the Queen; in 1862 he became

D.C.L. of Oxford, and LL.D. of Cambridge. He had now reached the position of the leading consultant in London, and was called on in the fatal illnesses of the Princess Mary, the Duke of Cambridge, and the Prince Consort. Subsequently he became the physician in ordinary to the Queen, and was created a baronet. Until a very recent period he continued in active practice, and for many years was the most trusted medical adviser of the higher classes of English society. In the photograph which accompanies the sketch of Dr. Watson's life, published in the "Photographs of Eminent Medical Men of all Countries," issued by Churchill in 1867, we see a countenance of mingled benignity and firmness. He is seated in his library, surrounded by his books. His neat attire, the associations of a cultured physician, and the thoughtful countenance, make up a most interesting *ensemble*, and reveal, at the same time, the literary character and professional eminence. Such was the position of Watson in London —scholar, gentleman, and physician—a scion of an old family, a wrangler of Cambridge University, and the leading practitioner of the metropolitan city of England.

NEWS ITEMS.

NEW YORK.

(*From our Special Correspondent.*)

NEPHRECTOMY.—The operation of nephrectomy, so popular of late in New York, has not been resorted to as enthusiastically as it was before the recent removal of the kidney from a patient in one of the city hospitals. No urine was passed after the operation, and the woman died in two days. It was found that there had been but one kidney—that removed by the surgeon.

THE NEUROLOGICAL AND MEDICO-LEGAL SOCIETIES, long noted for internal wars, have lately been figuring in the daily papers. Two rival nominees for the Presidency, Dr. W. A. Hammond and Mr. Claude Bell, have had an exciting contest. Mr. Bell, however, defeated his opponent after a hot fight, and both parties smoothed their ruffled plumage at a handsome supper given at the Brunswick Hotel subsequently by the successful candidate.

CHANGES IN THE POST-GRADUATE MEDICAL SCHOOL are in order: Dr. M. A. Pallen has resigned to go to London, his place to be filled by Dr. B. W. Dawson, formerly editor of the *American Journal of Obstetrics*. Dr. H. G. Piffard has also withdrawn from the faculty.

BROOKLYN.

(*From our Special Correspondent.*)

ISOLATION OF INFECTIOUS DISEASES.—At the King's County Hospital there has long been a need for accommodations suitable for the treatment of infectious diseases. The supervisors have been very slow to recognize this want, although it has been repeatedly brought to their attention. That they are awaking to its importance, is shown by the following paragraph taken from a recent report of their committee on hospitals:

"While there are evidences of good management at the hospital, some additional facilities are very much needed. Those now at the disposal of the superintendent are so limited that he finds himself unable to classify certain patients who never should be allowed to be near each other. That is to say, diphtheitic patients are now consigned to the same ward in which fever patients are kept for treatment, the same practice being necessary so far as those suffering from other contagious diseases are concerned. It is scarcely necessary to say that a patient suffering from one infectious disorder is by no means insured of immunity from another, so that to mix these classes of inmates is to subject them to a danger which might easily be avoided at very small cost."

The light spreads slowly, but it spreads.

SANITARY CONDITION OF SCHOOL BUILDINGS.—There has been a systematic survey made of the sanitary condition of all the private schools of the city, especially in respect of their drainage and plumbing. In not a few instances, serious defects have been found by the inspectors, and the health of the pupils has been thereby impaired.

THE NEW HOSPITAL BUILDING OF THE ST. MARY'S HOSPITAL was formally opened Sunday, December 17, and was attended by hundreds. Visitors coursed through the finished wing from 11 o'clock till 5. At 3 o'clock, those who gained access to the hall were addressed by Bishop Loughlin and Mayor Low. The hospital is admirably arranged and will be under the charge of the Sisters of Charity. Dr. John Byrne has borne the brunt of the labor of progressing this institution, giving it thought, time, and money. He has associated with him a large medical staff, divided into specialties, not simply those peculiar to a hospital for women and children such as was the old basis of St. Mary's, but also those that frequently have their own separate institutions, such as the specialties of the eye and ear, the skin, the nervous system, and the joints. It is claimed that this is a new departure, never before developed in this or any other country.

BOSTON.

(*From Our Special Correspondent.*)

DR. CARPENTER ON HUMAN AUTOMATISM.—In opening his *third lecture* upon human automatism, Dr. Carpenter said that the subject of the evening (the automatism of habit) was one upon which metaphysics unaided by physiology have been unable to cast any light. For example: Stewart, a metaphysician of great merit, thought the act of walking to be always voluntary. Other metaphysicians considered it needful to suppose an infinitesimal amount of volition, which practically is no volition at all, and thus corresponds to the theory of physiologists. As already shown, the ordinary movements of the lower animals originate in a mechanism native to the animal itself. A further proof of this fact is found in the movements of a frog whose cerebrum has been removed. Effect this by decapitation, and the frog will still assume its ordinary position of repose. Prick its foot, and it will jump; apply acid, and the foot will be raised in an attempt to wipe it; cut off this foot, and the other will begin to act. More remarkable is the result when the cerebrum has been removed without disturbing the ganglionic tract, a continuation of the axial line, corresponding to the anterior portion of the nerve-cord of a centipede, and which in the human body the lecturer has always considered the primary recipient of impressions made upon the senses—sight, hearing, etc.

The frog, when thus mutilated, will originate no movement unless touched or otherwise disturbed. When touched, however, it will jump, and will so direct its spring as to avoid an obstacle, which, (the optic ganglion being intact) evidently is seen not precisely by the frog, which is unconscious, but by the ganglion which consequently directs the motor functions of the connected ganglia. Under like conditions, the frog, if stroked will croak in a peculiar manner and, placed

upon the hand, the latter being gently inclined, will climb to a position of security. These movements all find a parallel in the actions of human beings when the cerebrum is either quite passive, as in sleep or coma, or else is being used in other directions, the chief difference being that while in the frog all motions necessary to life are provided for by innate mechanism, in *us* the mechanism for many motions has to be shaped by the original operation of the will.

Dr. Carpenter expressed the belief that the axial cord with its sensory and motor nerves is *wholly distinct from the cerebrum*, and that the latter receives information of what the cord is doing through the ganglionic line already mentioned, and gives its orders through the same medium. Strong corroboration of this theory lies in the fact that paralysis follows a lesion, not of the cerebrum, but of this ganglionic tract. Distinct pathological proof of independent action of portions of the axial cord has been supplied by cases of accidental division of it. Dr. William Burke, of Bristol, records the case of a man whose axial cord was divided by an injury to the spine in the small of the back above the ganglionic centres which control movements of the legs. The man was entirely unable voluntarily to move his legs and quite unconscious of anything that was done to them, yet if the soles were tickled or a hot plate applied, the legs moved at once without the man's knowledge. The testimony of military men who have seen nearly entire regiments walking when sound asleep, and numerous instances of men riding on horseback in the same state, prove that when once established, these acts require no further direction from the will. Yet, the operation of walking calls into action nearly every muscle in the body and requires a process of balancing so complex that hitherto it has been impossible to construct a walking automaton. The explanation of these automatic movements is that the will has so directed nutrition to certain portions of the nervous system that these have shaped themselves into automata capable of performing their several motions whenever they are so excited by the will.

Cases of perfect insensibility, or coma, resulting from apoplexy have often occurred with similar effects. A London policeman in this condition continually caressed and adjusted his moustache, of which in his conscious state he was very proud, and which he was in the habit of manipulating in this manner. A rope-maker in a state of coma, began to twist a cord whenever it was placed between his fingers. Sundry other examples were given. In India the punkah pullers continue their work when asleep as perfectly as when awake. But in their case heredity has entered the problem, through the system of caste, the same families having followed the occupation for centuries.

A good instance of this creation of organic mechanism by direction of the will is the process of speech. Articulation, as well as the production of musical tones, is guided by the sense of hearing. Deaf mutes never learn to articulate by themselves, and when taught they learn by attention to the muscular sense of the motions of the vocal organs. In a case of total deafness the result of an accident at nine years of age (Dr. Kitto), the use of the vocal organs became disagreeable, and they were abandoned until friends urged assumption of their use.

Dr. K. explained that he gave up speech because he was obliged to guide the vocal organs by the unaccustomed process of attention to the muscular sense, which wearied him just as it fatigues one to roll the eyes in a perfectly dark room, where the movement requires attention to the muscular sense, instead of being automatically guided by ganglia under the influence of light. In training a deaf mute, the first step is to place his finger on the teacher's larynx, so that he may feel the vibration caused by formation of tone. His finger is then placed on his own larynx, and he is encouraged to create a similar vibration. This reproduction, by repetition, becomes the basis of automatism of vocalization, and the process is a model for the formation of all secondary automatic motions. We train our automata in the acts of writing, drawing, in instrumental music, etc., and when automatism is once established the cerebrum says to the spinal cord: "Do this," and the cord does it for us—not by us. Thus a pianist will play difficult music when the mind is engrossed by something else. A lady in Dublin once played dance music an entire evening while asleep, it being necessary only to awaken her sufficiently from time to time to make her understand what movement, waltz, quadrille, etc., was wanted; telegraph clerks sometimes despatch messages while asleep, or thinking of other matters. One testifies that he can read the message and put it into the movements necessary to the machine while asleep, with less liability to error than if he gave his attention to the process. Morbid phenomena confirm the theory.

In tetanus the ganglionic tract in the head is not much affected, fixation of the respiratory muscles being the chief cause of death; but in hydrophobia, an allied disease, convulsions are caused by the sound or sight of water, by a picture of it, stranger still by suggestion of it, thus corroborating the former statement that equal effects are produced by exciting the ends of nerves and by impulses from the brain. Yawning is another illustration; ordinarily it is owing to the accumulation of carbonic acid in the lungs, the result of practically suspended respiration due to fixation of the attention. The carbonic acid irritates the terminal ends of the nerves, and the reflex action of gaping follows. The sight of yawning in others will also induce a yawn, in this instance the result of brain impulse. The necessary condition in all these instances is that the nerve centres must be predisposed to a particular act, which may then be caused either by a stimulation of the nerves or by an impulse from the cerebrum.

CANADA.

(*From our Special Correspondent.*)

TROUBLE IN THE MIXED MEDICAL CLASS AT KINGSTON.—Trouble has arisen at the Kingston Medical School between the male and female students. The latter took offence at a remark made by the Professor of Physiology, and left the lecture-room. The male students petitioned the faculty to dismiss the ladies, and threatened to leave in a body if their request was not complied with. The faculty refused to be dictated to, and it was subsequently arranged that the females now attending will be allowed to finish their course, but no more of the sex will be admitted to the college.

NOMINATIONS.—The President sent the following nominations to the Senate last Friday: Colonel Robert Murray, surgeon, to be colonel and assistant surgeon-general; Lieutenant-colonel John F. Hammond, surgeon, to be colonel and surgeon; Major Basil Norris, surgeon, to be lieutenant-colonel and surgeon; Captain Frank Macham and Daniel G. Caldwell, assistant surgeons, to be majors and surgeons.

A CASE OF LEPROSY IN MASSACHUSETTS.—A case believed to be genuine leprosy has developed in the almshouse at Salem. The patient is Charles Derby, who arrived there from San Francisco a week ago. The disease is pronounced leprosy by a sea captain and a physician who was familiar with that disorder in Africa. A consultation of six leading physicians has been held, but they arrived at no decision, and Dr. Walcott, of the State Board of Health, passed his judgment on Decem-

ber 18, that the case was unquestionably leprosy, and that the disease was contracted in the Sandwich Islands. Derby is well educated, and was for some years at Honolulu as chief botanist to Queen Emma. He has been isolated and his clothing burned.

A LEGALIZED EDUCATIONAL FRAUD.—Charles J. Eastman, Rufus K. Noyes, and W. D. Corken, corporators and officers of the Bellevue Medical College, recently arrested on the charge of issuing bogus diplomas, were examined before Commissioner Hallett on December 15, at Boston, on charges of using the mails for fraudulent purposes. Evidence was offered by the Government, and was not contradicted, to the effect that the college had issued degrees and diplomas to individuals grossly ignorant of the theory and practice of medicine, and after a farcial course of instruction covering a few weeks or less. Defendants claimed simply that they were empowered to do all that was alleged, by the laws of Massachusetts. It appeared that the institution was legally incorporated, and that, according to the corporation laws and its charter, it enjoys all the privileges of other medical colleges. These facts were admitted by the Government attorney. Commissioner Hallett said if the Faculty chose to issue degrees to incompetent persons, the laws of Massachusetts do not prevent them. The prisoners were therefore discharged.

PROF. VIRCHOW'S HEALTH.—PROF. VIRCHOW'S health is slowly but steadily improving; he is now driven every day in a closed carriage to the Pathological Institute, but avoids all work which requires him to be out of doors.

A DIRECTORY FOR NURSES IN SAN FRANCISCO.—A directory of nurses will be opened in San Francisco, under the direction of Dr. A. S. Whitwell.

IMMIGRANT INTRODUCTION OF SMALLPOX INTO THE UNITED STATES.—Dr. John H. Rauch, Secretary Illinois State Board of Health, states that in reviewing the experience of the past six months' operations of the Immigrant Inspection Service, in connection with the history of smallpox in Chicago for thirty-two years, and the testimony of leading health officials concerning the origin and spread of the epidemic of 1880–82 in the United States, the truth of the following propositions seems to him to be demonstrated:

1. The immigrant is a prime factor in the origin and continuance of smallpox in the United States—on the one hand, even if protected himself, often being the bearer of the contagion in clothing and other effects; and on the other, if unprotected, frequently becoming a victim to the disease and propagating it to others.

2. Local effort and expenditure, either by State or municipalities, are inadequate to the control of smallpox in any given community or commonwealth, so long as the contagion and the material for the propagation of the contagion continue to be replenished by repeated accessions of unprotected or imperfectly protected immigrants.

3. A continuous sanitary surveillance of immigrant travel, from the port of arrival to the point of ultimate destination—such surveillance to consist of repeated inspections, vaccination of all unprotected, systematic observation of suspicious sickness, prompt removal and isolation of discovered smallpox or other contagious cases, disinfection of baggage, clothing, cars, etc.—is essential to supplement whatever preventive measures can be secured before embarkation, during the voyage, or at the port of arrival.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending December 9, 1882, indicate that intermittent fever, influenza, tonsillitis, and pneumonia, have increased; that neuralgia, diphtheria, and typhoid fever, have considerably decreased, and that typho-malarial fever, bronchitis, cholera morbus, diarrhœa, and whooping-cough, have decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria and scarlet fever were reported present during the week ending December 9th and since, at 16 places, and measles at four places, smallpox was not reported at any place in Michigan.

OBITUARY RECORD.—Died at Brooklyn, New Yoak, December 12th, DANIEL ALBERT DODGE, M.D., in the 54th year of his age. Dr. Dodge was an eminent and skilful surgeon, a most genial gentleman and well beloved by his collaborators. He was for more than twenty years a member of the surgical staff of the Long Island College Hospital, of which institution he was a visiting surgeon at the time of his demise. He was an untiring and faithful practitioner, notwithstanding his health was frail for many years. He was the subject of chronic valvular disease, supervening in a fatal attack lasting over a month, of cerebral embolism. He was an alumnus of the College of Physicians and Surgeons, New York, of the class of 1852.

NOTES AND QUERIES.

THE NEW YORK CODE.

To the Editor of THE MEDICAL NEWS.

Sir: I fear that some of the readers of your journal will get the impression that the last meeting of the Medical Society of the State of New York was made up of delegates and members who were coached to sustain the report of the committee on a new code. This is the opinion I would form from reading your editorial in the last number of THE NEWS were I not better informed. So far from there being any attempt to "fix" the meeting, I know, as one well acquainted with each member of the committee, and with the Society, that there was no effort of any kind whatever to secure a vote in favor of the new Code, save that made in debate on the floor of the meeting. A resolution abolishing the old Code was introduced by myself without previous consultation with but one member of our Society, and it was passed by a majority of two, as a legitimate result of free debate. Besides all this, the last meeting of the Society, in spite of all statements to the contrary, was well attended from all parts of the State. Whatever the faults and shortcomings of opponents of the Code of Ethics of the American Medical Association may be, they have not yet attempted to stifle discussion or to "fix" delegates.

I am, sir, yours very respectfully,

D. ST. JOHN ROOSA.

NEW YORK, December 16, 1882.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 11 TO DECEMBER 18, 1882.

BANISTER, J. M., *Assistant Surgeon.*—To proceed to camp on White River, Colorado, and report to the commanding officer.—*Par. 7, S.O. 250, Department of Missouri, December* 11, 1882.

HALL, W. R., *Assistant Surgeon*—Granted leave of absence for one month.—*Par. 8, S. O. 250, Department of the Missouri, December* 11, 1882.

PORTER, J. Y., *Captain and Assistant Surgeon.*—To proceed to St. Francis' Barracks, St. Augustine, Fla., and to report to the commanding officer of that post for temporary duty.—*Par. 2, S. O. 119 Department of the South, December* 11, 1882.

WYETH, M. C., *First Lieutenant and Assistant Surgeon.*—Granted one month's leave of absence.—*Par. 4, S.O. 206, Department of Dakota, December* 18, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked,

Letters, whether written for publication or private information. must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

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ORIGINAL LECTURES.

ON IRITIS.

A Clinical Lecture delivered in the New York Eye and Ear Infirmary, November 23, 1882.

BY RICHARD H. DERBY, M.D.,
SURGEON TO THE INFIRMARY.

(*Specially reported for* THE MEDICAL NEWS.)

GENTLEMEN: The group of patients that I present to you to-day all illustrate in a striking way an affection of the eye to which I desire to call your earnest attention.

In keratitis, scleritis, and other affections, therapeutics are often of very slight value, and whatever is done we often see that, had the course of the disease been left to itself, the result would have been the same. In the treatment of iritis, however, medicine celebrates many a triumph. We shall see that when inflammation of the iris is left to itself, its issue in most cases is very unfavorable; and statistics show that a frequent cause of blindness is a neglected iritis.

Let us, in the briefest way, recall the anatomy of the iris, and we may then consider the pathological appearances and symptoms of this affection, and as tersely as possible describe the methods of treatment at our command.

The *iris* is the anterior portion of the uveal tract. The authors divide it into a pupillary zone which contains the sphincter of the pupil, and a ciliary zone in which the dilator muscle of the iris lies. The epithelial covering of its anterior surface is continuous with that of the membrane of Descemet, the posterior surface of the cornea. The structure of the iris is made up of connective tissue with elastic and muscular fibres. Its nerves are partly sensitive, supplied by the trigeminus, and partly motor, from the branches of the oculomotorius. Its bloodvessels are derived from the long, and the anterior ciliary arteries. The posterior surface is formed of pigmented epithelial cells which are separated from the stroma by a structureless membrane.

The questions which we have to consider in connection with inflammations of the iris are, *first*, What are the signs that we are to look for? *Second*, What are the changes we shall observe in the progress of iritis? *Third*, What are the causes of the inflammation of this membrane? And *fourth*, What treatment is demanded?

Diagnostic signs.—Of the diagnostic symptoms of iritis, perhaps the most important is the blurring of the sight. The patient does not see quite as well with the affected eye as with the other. The aqueous is perhaps a little clouded. In the region of the pupil there may be some exudation, or perhaps there is slight deposit on the posterior wall of the cornea.

In almost all cases of iritis the eyeball is bloodshot very early in the affection. There is a faintly red injection around the margin of the cornea—minute bloodvessels radiating from the cornea appear. This is the so-called ciliary injection, or circumcorneal injection, and once recognized it is not to be mistaken. This injection points always to an inflammation of the cornea, iris or ciliary body.

Another not uncommon symptom of iritis is pain. It may be located in the brow, in the eye, or in the cheek, and be toothache-like in character. In a large percentage of these cases the pain asserts itself at night, when during the day the eye has been quiet.

Looking now at the products of inflammation of the iris we may distinguish, as the authors do, three varieties of iritis:

1. Simple or plastic iritis.
2. Serous iritis.
3. Purulent or parenchymatous iritis.

The *simple iritis* is accompanied by more or less circumcorneal injection. This is sometimes very marked; again so slight that the iritis would escape notice, did we not discover one or two synechiæ or adhesions between the anterior capsule and the iris. There is a slight cloudiness of the aqueous humor, and on covering the well eye we find that the pupil of the eye affected does not promptly respond to the stimulus of light. To confirm the diagnosis now a few drops of a solution of atropine instilled in the eye will show whether or not there are any adhesions between iris and lens capsule. The extent of these adhesions will depend upon the intensity of the inflammation and upon the promptness of the treatment. The margin of the pupil may become entirely adherent to the capsule of the lens, and the existence of these adhesions or synechiæ is a most common cause, as we shall see, of relapse in the iritis.

Serous iritis has been described as a punctate keratitis; inflammation of the membrane of Descemet, and by the earlier writers as an aqua-capsulitis. We have here and there on the posterior wall of the cornea point-like deposits; the anterior chamber is of increased depth; the tension of the eyeball has increased.

The *purulent iritis* or parenchymatous form is characterized by marked swelling and thickening of the iris tissue. The change in its color becomes very marked—almost yellow—and shows many new vessels. Accompanying this there is often an hypopyon; false membranes form in the region of the pupil, and often a subsequent atrophy of the iris tissue is observed.

Let us now look at some of the causes which lead to iritis, and see if there are any diagnostic points which will justify us from the physical signs in assuming the etiology of the disease.

The *syphilitic iritis*, especially when it occurs as a tertiary symptom, shows unmistakable evidence of the disease which lies behind it. Small gummy tumors, more frequently singly, of reddish color, are found on the ciliary or pupillary margin of the iris. When these appearances are present we can safely say that the case is one of syphilitic origin. The iritis which appears early in the course of syphilis, for instance at the period of the roseola, does not so often show these appearances. Graefe found that out of 62 reported cases where these gummata were demonstrable, syphilis could be proved in 60 individuals.

Of the various authors De Wecker especially insists upon certain characteristic appearances of the *rheumatic iritis*. He describes this form as a plastic iritis, associated with marked episcleral inflammation, a loss of transparency of the margin of the cornea; decided sluggishness of the iris and slight exudations upon its surface, robbing it of its brilliancy. Further, this form of iritis is very tedious; it has frequent relapses, leading to the formation of extensive posterior synechiæ, and development of irido-choroiditis.

Iritis may supervene upon gonorrhœa, and in such cases we often note that there is an intervening link in the form of a rheumatic affection of one of the joints.

It is interesting to observe the fact that iritis almost never occurs idiopathically in children. Those of you who have followed the service at the Infirmary of late may recall two children with iritis. In one case the pupil resisted all instillations of atropine; there was a broad synechia upwards and outwards. The intense white reflex which came from behind the plane of the iris pointed to the original affection to which the iritis was merely secondary. It was an intra-ocular tumor, and probably a glioma. Another case was that of a little fellow with pale face and emaciated features. There was malformation of the teeth. The partially cloudy cornea showed an irregular pupil with atrophic iris. This was a kerato-iritis, a manifestation of inherited syphilis.

Syphilis is the cause of 60 to 70 per cent. of all cases of iritis. Of the 30 to 40 per cent. of remaining cases the rheumatic diathesis explains half the number. In a certain number of cases smallpox is a cause, and so are injuries to the eye as well as affections of the cornea.

Let us now consider, gentlemen, the treatment of iritis in general. In no department of ophthalmology has Von Graefe rendered science greater service than in that of diseases of the uveal tract. His clear teachings and wise generalizations have formed the basis of our treatment of disease of this portion of the eye, and to his contributions to this chapter little or nothing has since been added.

Our first principal remedy is atropine. The action of the atropine seems to be a compound one; it exerts a narcotic action upon the ciliary nerves, and it diminishes intraocular pressure. The principal point is the immobility of the iris and dilatation of the pupil which it produces. The iris is put to rest and the accommodation is paralyzed. In the majority of cases the iritis is cured by the atropine alone. Next in value is a pressure bandage, and through this we keep the external musculature of the eye at rest and control the action of the lids. The belladonna and mercury salve that was once so often rubbed upon the brow, never produces mydriasis, and its action is confined to a possible general action of the mercury. Palpation of the eye in iritis is of vast service to us in guiding us to the right treatment. If upon palpation the pain does not increase, there is no indication for local blood-letting. On the other hand, if upon palpation the pain increases, leeches should be applied to the region in front of the ear and not too near the eye. If there is a serous chemosis, it should be incised with the scissors.

Where there is severe pain along the brow, temple, and nose, that does not increase upon palpation, the indication is decidedly against blood-letting. Here opium works admirably, relaxing the sphincter and assisting the atropine. The pain abates, too, under a pressure bandage, and although it cannot always be endured, we should always try it.

Warm compresses or poultices are often of the greatest use—cold applications are always bad, and too often lead to subsequent choroiditis.

When the aqueous humor in cases of iritis is cloudy and the intraocular pressure is increased, paracentesis of the anterior chamber is of the greatest value, and under such circumstances the operation is attended with no danger. The effect of the paracentesis is often beautiful; the pain ceases; the disease changes for the better. In those cases where there is hypopyon, and above it a clear aqueous, paracentesis is not to be thought of. The letting out of the aqueous is followed by hyperæmia of the iris, and the important question naturally is, Is the inflammation of such a character that the hyperæmia can be tolerated? The answer is simple—If the inflammation is serous, the paracentesis is of great service; on the other hand, if the inflammation is plastic, *make no paracentesis*. In plastic inflammations of the iris, the best remedy is mercury—inunction in the axilla, and one-half grain of calomel internally every two hours. With these remedies we usually see in 36 hours an approaching salivation, and here we stop with the mercury. Now comes the satisfactory moment, the plastic exudation goes back, is absorbed. The specific iritis is far less dependent upon changes in the temperature than the simple form, and such cases often are treated as out-patients. In this form mercury must be used. Specific iritis advances irregularly to its acme, and at this point it remains perhaps a fortnight. If the case is well treated, a complication with the inflammation of the choroid is never observed.

ORIGINAL ARTICLES.

IS TUBERCULOSIS A PARASITIC DISEASE?

FIFTH PAPER.

BY GEORGE M. STERNBERG, M.D.,
SURGEON, U. S. A.

FOR reasons given in my last communication to the MEDICAL NEWS, November 18th, I have discontinued, for the present, my experiments with reference to tuberculosis and I do this the more willingly as others have entered the field whose facilities for prosecuting such an investigation are far better than those at my command. I am especially pleased to see that so accomplished a pathologist as Dr. Formad has entered the arena, and that we are not to be left entirely at the mercy of foreign *savants*, even if the National Government, with its enormous revenues, fails to make any provision for scientific work of this character.

If I have not been able to answer the question, *Is tuberculosis a parasitic disease?* the experimental data thus far furnished will at least be of use to the jury—the medical profession—in making up a final verdict; which, I submit, would in the present stage of the investigation be premature. I therefore beg leave to retire from the witness-stand and to take my seat with the jury, with the understanding that I may be recalled if circumstances enable me to add to the testimony already given. First, however, it may be well to make a summary statement of the evidence presented; which I do as follows:

(*a*) The bacillus described by Koch is found in the sputum of phthisical patients in San Francisco.

(*b*) That this bacillus differs from the microorganisms found in normal human saliva and in bronchitic sputum, is proved by the color-test (Ehrlich's) and by culture-experiments (see below, *i* and *j*).

(*c*) Tuberculosis in animals may result from inoculation—subcutaneous—with the sputum of tuberculous patients.

(*d*) But in several of the animals experimented upon, no evidence of tubercular deposit was found, and in others it was very slight. Total number of animals experimented upon, twelve rabbits, two guinea-pigs, and two dogs.

(*e*) In the animals successfully inoculated, the enlarged tuberculous lymphatic glands in the vicinity of the point of inoculation, and tubercular nodules in the lungs and elsewhere, *usually* contained the bacillus of Koch.

(*f*) But this was not invariably the case. At least a careful search failed to demonstrate the presence of this bacillus in tubercles found in the lungs of three rabbits (half-grown white rabbit, killed October 8th, Experiment No. 3; large, spotted rabbit, killed October 7th, Experiment No. 4; small rabbit killed by subcutaneous injection of human saliva, October 6th, Experiment No. 5).

(*g*) The bacillus of Koch was found in abundance in the tubercular nodules from a freshly cut section of human lung, obtained through the courtesy of Prof. Hirschfelder, from the dead-house of the City and County Hospital, San Francisco.

(*h*) But in a similar specimen from another case, repeated examination failed to demonstrate the presence of the bacillus.

(*i*) Culture-experiments have demonstrated that the bacillus in question multiplies upon the surface of sterilized and jellied blood-serum, prepared in the manner described by Koch.

(*j*) But in the writer's experiments the bacilli have not penetrated the culture-medium, or extended upon its surface to such an extent as to indicate that multiplication was at the expense of this jellied blood-serum, which has seemed rather to serve as a *moist*, supporting surface; multiplication has apparently been at the expense of the tubercular material introduced for the purpose of inoculating this culture-medium. The bacilli were not abundant in this material when it was first obtained from the lungs, or from an enlarged lymphatic gland of a rabbit recently killed; but after remaining in the culture-tube for a fortnight the bacilli were found in enormous numbers, while the cellular elements of the tuberculous material had to a great extent disappeared.

TREATMENT OF SHOT FRACTURES AND PENETRATING GUNSHOT WOUNDS OF THE CHEST AND JOINT-CAVITIES BY THE EXPECTANT PLAN, AS WELL AS OF SHOT WOUNDS OF THE SOFT PARTS.

BY H. I. RAYMOND, M.D.,
ASSISTANT SURGEON, U. S. A.

IN THE MEDICAL NEWS of September 23, 1882, among the transactions of the Medical Society of Virginia, is given an abstract of the report of the Committee on Surgery. This abstract relates to drainage in gunshot wounds.

Two of the propositions laid down therein, and several of the conclusions drawn therefrom, are so diametrically opposed to and subversive of the teachings of many eminent authorities, the German school in particular, that a few of the principles in military practice enunciated in that paper should not pass unchallenged. In the discussion that followed the hearing of the report, the argument in part was answered by Dr. R. I. Hicks, who struck the key-note on the treatment of penetrating shot wounds of the chest, but put himself on dangerous and hotly contested ground as to the treatment of penetrating gunshot wounds of the *abdomen*, but failed to observe an erroneous statement in the report made in respect to penetrating gunshot wounds of joints. This will be made mention of later.

Whether this paper was accompanied and supported by illustrative cases, I am not informed, or whether it was constructed upon the statistics of a goodly number of carefully tabulated cases in its author's own experience, or that of other prominent surgeons, I am left only to surmise. Suffice it to say that the exceptional propositions are so startling as to make one question any surgical faith that is in him.

Respecting penetrating gunshot wounds of the chest, I quote from the report: "The cases of penetrating gunshot wounds of the chest which recover, are the cases in which thorough drainage has been practised.

"*No surgeon now thinks of hermetically closing a penetrating wound of the chest.* On the contrary, we are instructed to keep it open. . . . . In empyema great good is accomplished by aspiration, paracentesis, incisions, drainage-tubes, and flushing out the cavity: *and the analogy between the consequences of gunshot wounds and empyema is too striking to be overlooked.*"[1] The question at issue is not whether a purulent collection of matter, or any septic fluid in the body, whether in a gunshot wound of the soft parts, or of the chest cavity, should or should not be hermetically sealed or evacuated; for the principle that septic matters liable to absorption must be gotten rid of at all hazards is, as Dr. Hicks observed, "old as the fathers of medicine."

From the statement in the report that "no surgeon would think of hermetically closing a penetrating gunshot wound of the chest," and that there is "an analogy between the consequences of gunshot wounds of the chest and empyema," the legitimate conclusions that I feel warranted in drawing as intended to be conveyed by the report, are that every, or at least the generality, of penetrating gunshot wounds of the chest lead to the formation of pus or septic fluid, no matter what has been the primary treatment. This principle may pertain to the treatment of gunshot wounds of the *abdomen*, and probably does, as advocated and championed by J. Marion Sims, in his remarks on gunshot wounds of the abdomen in relation to modern peritoneal surgery, as published in the *British Medical Journal;* so that in view of this high authority a surgeon would hesitate to hermetically seal up an abdominal peritoneal wound for fear of septicæmia arising from absorption of the serous transudation within the peritoneum, which fluid seems particularly virulent from osmosis through the intestine, or other cause not pertaining to the character of such fluid when found upon the large absorbing serous surfaces of the knee-joint capsule.

Nor does this blood serum, which is the legitimate result of any gunshot wound, whether in the soft parts or in the closed cavities, appear to be a septic

[1] The italics are mine.

in the abdominal cavity, even when the peritoneum has not been penetrated, but simply bruised, and consequently no ingress afforded to infecting entities from the external world, at least through any wound-track. This has been verified by the four necropsies, now famous, in the military experience of Hunter McGuire, in which the several peritonea were not penetrated, being only bruised by the missiles. In each peritoneal cavity was found a quantity of red serum, and the cause of death in each case septicæmia. But the principle of treatment in gunshot wounds of the abdominal peritoneum is unique and not applicable to wounds of other serous-lined cavities, as, for example, the pericardium, the pleura, or the knee-joint. This is true, inasmuch as it is altogether probable that in gunshot wounds, other than those of the abdominal cavity, the infecting entities rendering the wound or cavity aseptic are introduced from without. In the case of the abdominal peritoneum the rats may be within, and must be gotten out; but in other cases, is it not true the rats are without, and should not be let in?

In wounds of the chest, the bullet itself may prove innocuous, and may have carried no foreign body in with it that may cause septic or purulent infection. This we believe to be the rule, the contrary the exception.

It is manifest, therefore, that the prime factor in treatment of such wounds is to hermetically seal them by antiseptic occlusion, that no infection may take place in a wound non-infected when it comes into the hands of the surgeon. Strange enough, it was the habit in Bellevue Hospital to occlude antiseptically a gunshot wound of the chest, but to probe and introduce drainage-tubes into a gunshot wound of the soft parts. But why should one fear to occlude a bullet wound of the biceps muscle when it is his practice to hermetically seal up a bullet wound of the chest, and that too with good results? Why partiality in the application of the occlusive method to chest wounds and wounds of the joints was not extended to wounds of the soft parts, I cannot account for. It seems that when a joint or the chest-cavity was invaded by a bullet the surgeon did not care to intrude further; forgetful, however, when he came to treat a gunshot wound of the arm, he might there introduce septic matter as easily as into a joint or other cavity. I remember introducing, while interne, a long Nélaton's probe in the case of a pistol-shot wound through the fleshy belly of the biceps for eight inches in the track of the bullet like a scout would follow up an Indian trail. Of course the man got well for all my probing and digital examination and squirting of antiseptic fluids into the track of the wound, all of which measures, while they disinfected their own infection of the wound-track, caused much irritation and swelling, with soreness and stiffness of the arm, for the time being. While junior member on the house staff, I asked one of the house surgeons how I should treat a pistol-shot wound of the cheek in the case of a boy on Second Avenue whom I was called on to attend the evening before, immediately after the accident; whether I should syringe it out with carbolic acid solution and drain, or close up the wound of entrance and exit of the ball. His reply was that in his teaching and experience with gunshot wounds a cylindrical slough commensurate with the area of the wall of the bullet-track, always resulted, and had to be gotten rid of by syringe and drainage-tubes. I therefore syringed it out and kept it open with oakum. The wound in the process of repair became swollen and tender, and had to be frequently poulticed.

Later, since treating such wounds by the simple and effective method of primary antiseptic occlusion, the patients complain of no painful swelling, nor have I seen an indication for a poultice, nor has any symptom of septic infection manifested itself from absorption of cylindrical sloughs, if such have formed in a wound not infected by the surgeon's probe or digit.

But to return to gunshot wounds of the chest; while house-surgeon I gathered the statistics of pistol-shot wounds of the chest occurring in Bellevue during two years, from about June of 1879 to June, 1881.

These numbered ten or more, three of which, being doubtful, were rejected. The rejected cases all recovered. The symptoms of the seven accepted cases were such as to warrant a diagnosis of penetrating gunshot wounds of the chest, viz.: spitting of blood, aspiration of air through the bullet wound, pneumonia, pleurisy, and pericarditis. Each case had one or more of these diagnostic signs of penetration of the chest, pleural cavity, and lung. Of these seven cases one proved fatal. One remarkable recovery was in the case of a Bohemian, a cigar-maker, æt. about twenty years, who, in a fit of despondency over a love affair, thought to put a quietus to his troubles by shooting himself through the heart.

He discharged two barrels of his revolver over the region of the heart, both bullets penetrating the chest walls. On admission into the hospital, frothy blood was oozing from the stoma of the wounds, and the hurried breathing, small pulse, and lividity of the face seemed to betoken impending death. The patient however rallied, and his wounds were dressed by simply cleansing antiseptically their superficies, and occluding their mouths by pledgets of lint, spread with an antiseptic salve, this dressing being held on by adhesive straps.

Pneumonia early set in and pericarditis followed suit. The crepitant râle and pericardial friction sound with increased area of cardiac dulness were made out. The patient recovered. The pericardial effusion was certainly not purulent, nor had we reason to expect that it would be, since no septic matter had been introduced from without.

We do not deny that draining of a *suppurating* pericardium, as done by Rosenstein, is not a proper surgical procedure, but we claim that the pericardial effusion in gunshot wounds is not in the generality of cases purulent or septic, and we have no warrant for anticipating such a probable occurrence by subjecting every case of gunshot wounds of the pericardium to drainage, although, following the teachings of J. Marion Sims, one would be warranted in so doing in gunshot wounds of the abdominal peri-

toneal sac. So much for the expectant plan of treatment in penetrating gunshot wounds of the chest, to which I could add a case in the recent Arizona fight, communicated to the *Medical Record*, and doubtless Dr. Hicks and many other surgeons could contribute to swell the list of such wounds successfully treated by the occlusive method. Do facts then bear out the assertion that "no surgeon now thinks of hermetically closing a penetrating wound of the chest?"

Regarding penetrating gunshot wounds of the joints, the report, after stating that "few surgeons now question the advantage of treating suppuration in joints by free incision, drainage, and antiseptic washes" (which all will admit), it goes on to affirm that "*penetrating gunshot wounds of the joints are invariably attended with suppuration,*"[1] and upon these two premises (the latter of which we do not admit) the author naturally enough comes to the conclusion that penetrating gunshot wounds of the joints should also be treated by free incisions, drainage, and antiseptic washes.

The fallacy lies in the second premise, as most certainly pointed out by twenty-seven tabulated cases in the experience of Karl Reyher, two-thirds of which were treated by primary antiseptic occlusion, and one-third by primary antiseptic drainage; and also by six other cases of the same nature treated by primary occlusion, not even antiseptic. Some of these cases I have made mention of in an article in the *Medical Record*, (Primary Antiseptic Occlusion in Military Practice), but they will serve also to elucidate the fallacy in the second premise above, namely, that penetrating gunshot wounds of the joints are invariably attended with suppuration." Karl Reyher, in the Battle of the Red Cross, had under his care, among the gunshot wounds, twenty-seven penetrating gunshot wounds of the joints, adapted to primary antiseptic treatment. Eighteen of these were treated by primary antiseptic *occlusion*—that is, by hermetically sealing the mouth of the wound by an antiseptic covering without having previously introduced probe, or finger, or drainage-tube into it. Of eighteen such serious joint injuries treated by this method, but one death resulted. The remaining nine cases were treated by primary antiseptic *drainage;* that is by "free incisions, drainage, and antiseptic washes." Of these nine cases of penetrating gunshot injuries of the joints, two deaths resulted.

That is to say, of twice the number of cases of penetrating gunshot injuries of the joints treated by primary antiseptic *occlusion*, but fifty per cent. of deaths resulted as compared with the mortality of half that number of cases treated by primary antiseptic *drainage* as recommended in the report as being the best method of treatment adapted to such wounds.

Add to this result six cases of penetrating gunshot wounds of the joints, treated by primary occlusion, even *not-antiseptic*, in all of which cases there was lodgement of the projectile and recovering with no resulting anchylosis, and in the face of these stern facts, the announcement that penetrating gunshot wounds of the joints are invariably attended with suppuration, is startling.

The report also states that "in gunshot wounds of the extremities we are taught the value of drainage by the good it effects in compound fractures of the extremities."

Now the greatest analogy exists between gunshot wounds of the bones of the extremities and *penetrating* compound fractures of the same from a fall or any injury.

In each case the communication with the external world is slight, and infection may yet be prevented by immediate antiseptic occlusion. At any rate, Prof. Von Bergmann occludes all *penetrating* compound fractures of the extremities, and no longer treats them by disinfection and drainage. Nor does he get septic poisoning, for the reason that he recognizes that what defiles the wound must come from without, and to the anticipation and prevention of the entrance of septic entities, he occludes the wound immediately.

Why not, then, extend the principle of occlusion to gunshot wounds of the extremities, even attended with fracture of the bone?

If there is any merit in the treatment of penetrating gunshot wounds of the chest, or joint-cavities, by the method by occlusion, as I trust is proven by the foregoing statistics, then the following of the eight conclusions drawn by the author of the report on treatment of gunshot wounds must be modified in relation to treatment of shot wounds adapted to primary and antiseptic occlusion as applied by Reyher.

The questionable conclusions of the report are:

1. "What union by primary adhesion is exceedingly exceptional in gunshot wounds?"

2. "What suppuration, granulation, and cicatrization are invariably combined in the process of repair?"

3. "That extensive accumulation and burrowing of pus in a deep, narrow bullet-track, are to be expected and feared."

7. "That by nature's efforts, analogy, and reason, we are taught to think that their more frequent use (incision, dilatation, drainage-tubes, etc.) will lead to better results in this class of injuries."

8. "That the danger incident to their use is far outweighed by the benefit which accrues."

With regard to the primary antiseptic occlusion of gunshot wounds, I feel warranted in postulating:

1. That this method of treatment is applicable to a large percentage of wounds inflicted by a cartridge from a revolver, or cylindro-conoidal bullet from a modern rifle or carbine.

2. That in properly-selected cases, wounds treated by this method do not suppurate or secrete any septic fluid.

3. On the contrary, this immediate antiseptic occlusion is intended to forestall suppuration, to prevent the accession of inflammation, and to allow a reparative reaction and secretion to be set up.

4. That the simplicity of this method should recommend itself to the profession in the treatment of wounds to which it is applicable—although the laity,

[1] The Italics are mine.

to be cured of their leprosy, may seem rather to wish to go on their hands and feet to the river Jordan, than be cured by simple and more effective measures.

MEDICAL PROGRESS.

Syphilitic Organisms.—Further observations of micro-organisms in syphilitic new growths have been published by Birch-Hirschfeld. He has examined a number of recently extirpated condylomata, and also a syphilitic growth in the wall of the heart, and has come to the conclusion that the organisms are not distinct rods or bacilli, as he formerly described them, but merely micrococci, and the appearance of rods is due to the linear association of a number of these elements. It is much more difficult to distinguish the individual elements than in the case of most micrococcal chains, because the organisms in syphilis are not round but oval, so that they are visible, not as points, but as short streaks. In most cases there are both monococci and diplococci; less frequently three or five individuals are united, which curiously simulate long rods with rounded ends. In this the observations of Aufrecht are corroborated. For the demonstration of the organisms in recent preparations, Birch-Hirschfeld prefers potash, by the clearing action of which the micrococci are visible in the tissue on account of their strong refracting power. In a broad condyloma, they lie, for the most part, in small aggregations in the papillæ, and in many of the cells of the adjacent layer of the rete Malpighii. They may readily be detected in the juice of a recently excised condyloma, by tinting in the ordinary way; and of the various tinting agents, Birch-Hirschfeld concludes that fuchsin and gentian-violet are the best. In the growths in internal organs the smallest micrococci are most abundant, and the larger forms seen in the condylomata are seldom met with. In gummatous scars they have been sought for in vain. In more recent gummatous products they were most abundant in parts which had the aspect of growing granulation tissue. They were partly scattered, partly aggregated into groups, which never exceeded a granulation-cell in size; they were also distinctly seen within cells. Many epithelioid cells seemed to have their nuclei filled with these organisms.—*Lancet*, December 2, 1882.

Accidental Diseases of Wounds.—In four recent numbers of the *Wiener Med. Wochenschrift* (Nos. 40, 41, 43, 44) there may be found an excellent contribution on the subject of diseases occurring accidentally in wounds, by Paneth and Rosanes. All the cases of accidental wound-diseases happening in Billroth's clinic during the years 1877-1881 have been collected. By means of numbers and charts the reader is presented with comparative tables of the relative frequency of such affections, and comparisons between the previous and the present series of years have also been instituted. During the last five years Listerism has been in vogue in the clinic, and iodoform has been employed in such cavities as the mouth, vagina, and rectum. We cannot go into the tables and statistics here collated, but must content ourselves with saying that not only has the total number of accidental wound-diseases gradually and increasingly diminished during the years in question, but each disease (erysipelas, pyæmia, septicæmia, and the like) has been less frequent. There seems no reason to doubt that the success has been due to improved hygiene in the local treatment of wounds. We congratulate the authors on the appearance of so useful a piece of work.—*Medical Times and Gazette*, December 2, 1882.

Muscular Hernia.—Dr. Nimier concludes, from an analysis of several cases, that the possibility of the production of hernia of muscular masses is established beyond doubt, but that it is very liable to be confounded with the tumor produced by the rupture of a muscle, or pseudo-muscular hernia; the study of the mode of formation of the tumor, together with the different physical and functional signs, will, however, render a diagnosis possible. The best method of treatment is to form a firm resisting cicatrix in front of the tumor by the action of caustics.—*Arch. Gén. de Méd.*, September, 1882.

Iodoform in Burns.—Dr. A. Selitsky, in *Med. Vestnik*, gives a very detailed history of a complicated case of burns of every degree, aggravated by lacerated wounds, caused by a premature explosion of a charge of powder in a cannon. In this case he used sodium bicarbonate on some of the burns (of all three degrees), and iodoform in others (also of all degrees). The soda was used dry by aspersion; the iodoform in the following two forms:

(1) ℞.—Iodoformi, ... ʒj.
Olei jecoris aselli (morrhuæ), ʒj.—M.

(2) ℞.—Iodoformi. . . . . ʒiij.
Vaseline, ... ʒij.—M.

The old-fashioned Carron oil was also used, in the following form:

(3) ℞.—Amygdal. dulcis olei,
Aquæ calcis, ... āā ʒss.
Acidi carbolici, . . . ʒss.—M.

In every degree of burn the iodoform proved itself far superior to the other remedies. It quickly relieved the pain, redness, and swelling of surrounding parts, drying and healing the wounds, whilst the carbonate of sodium produced a dirty gray, very painful and bleeding surface, which was the last to heal. The pains did not abate at all where the carbonate of sodium was used, but continued for days, when the burns on which iodoform had been used were quite comfortable and healing favorably.—*Physician and Surgeon*, Dec. 1882.

Spontaneous Rupture of the Heart.—Dr. Coupland reports a case of spontaneous rupture of the heart in a man aged sixty, from a sudden fright. He adds the following remarks: Perhaps the fullest information concerning rupture of the heart in literature is that given by Dr. Quain in his Lumleian lectures (*The Lancet*, 1872, i. p. 460), where he states that in 77 out of 100 cases there was fatty degeneration of the heart wall, and that 63 of the patients were above sixty years of age. He also points out what all writers, from Morgagni downwards, have noticed, that the exciting cause of the rupture is some sudden mental excitement or physical effort. In each of these particulars the case above recorded conforms to the general rule, but it may be added that until the day of the attack (which was distinctly referable to a violent mental shock) he had suffered no symptoms pointing to the existence of cardiac disease. Yet the coronary arteries were advanced in calcareous degeneration, and there was considerable adiposity of the heart wall as well as true fatty degeneration. The case also resembles the majority in the lesion being in the left ventricle, but it is somewhat exceptional in the position of the rent, which in most cases has been found in the anterior wall, either in the region of the apex or close to the septum. In this case the rupture, which formed an oblique slit, occurred in the posterior wall at some distance from the septum, and about midway between the apex and base. This localization of the lesion was, no doubt,

determined by the disease of the coronary artery and its branches impairing the nutrition of that part of the wall. The case is further of interest in the prolongation of life after the occurrence of rupture. According to Dr. Quain, "in 71 out of 100 cases . . . . death was sudden, occurring within one or two minutes. One patient, however, lived eight days, 1 six days, 1 three days, 5 lived over forty-eight hours, 3 lived under twenty-four hours, and 19 under twelve hours." In the present case, so complete was the rally under stimulant treatment that the idea of cardiac rupture, at first entertained, was thought to be beyond the mark, and that the case was, after all, one of temporary cardiac inhibition, from the influence of mental agitation. The sudden death, forty hours later, proved the correctness of the original surmise; whilst the discovery at the post-mortem examination of two distinctly separable layers of clot around the heart demonstrated the fact that the rent had been temporarily closed after the first occurrence of hemorrhage. A very important question is here raised; admitting the impossibility of recovery after cardiac rupture, would life have been more prolonged had sedative treatment (as insisted on by writers on the subject) been pursued? This may well be doubted, for although, on *à priori* grounds, it may seem wrong to stimulate to further action the heart so injured, it may equally well be contended that the ventricular contraction would aid in the temporary closure of the rent; whilst on the other hand, continuance of the hemorrhage might be favored by measures tending to prolong the state of diastolic relaxation. In following the indications for prompt stimulation, as the only measure likely to rescue the patient from imminent death, this line of treatment was deliberately adopted in face of the possibility of such a lesion as actually existed. Had stimulants been withheld the man must have died in the first seizure, and in such a case a respite of a few hours may often be of great moment. The inference is that in similar cases—where diagnosis may be even more certain—the natural indication to administer stimulants may not be so harmful as is generally assumed.—*Lancet*, December 2, 1882.

THE ELASTIC LIGATURE IN SOME CASES OF SYMBLEPHARON.—According to MR. SIMEON SNELL, the more complete varieties of symblepharon are best treated, of course, by transplantation of conjunctival flaps. In other instances, where simple bands or bridles pass from the lid to the ocular surface, division of them is sufficient. There are, again, cases which are intermediate between these, and in several such instances he has found the elastic ligature of service. Some of these were cases in which the fold uniting the eyelid to the globe was loose. A needle threaded with a fine piece of elastic was passed deeply through this fold and tied. In two, three, or four days it had cut its way through and come away. In some cases, though not invariably, this simple procedure was certainly of service. He was induced to use it, in the first instance, some years since, by seeing the opinion expressed that the elastic ligature leaves the surfaces cut by it somewhat thickened and less prone to unite.—*Ophthalmic Review*, December, 1882.

TREATMENT OF DIPHTHERIA WITH IODOFORM.—DR. BENZAN (*Wiener Med. Woch.*, Sept. 2, 1882) reports good results from the treatment of diphtheria with iodoform. He applies the iodoform in powder, pure, with a camel's-hair pencil, the patch of membrane to be treated having first been freed from mucus with a douche or with another camel's-hair pencil. He is careful that the iodoform shall cover the whole patch, and yet is equally careful that it shall not be applied in excess so as to be swallowed. The iodoform is applied eight times in the twenty-four hours—six times during the day, at intervals of two hours, and twice during the night. The success of treatment depends upon the efficiency with which these directions are carried out. The author contends that no treatment so effectually suppresses fetor and avoids general septic infection. Six severe cases of diphtheria were successfully treated by him, and he looks forward to better results than he has been able to obtain by other methods.—*New York Medical Journal*, December, 1882.

COMPOUND FRACTURE OF THE LEG; SUTURE OF THE BONE WITH SILVER WIRE.—PROF. KUSTER reports the case of a man, aged 36, who jumped from a height and sustained a compound fracture of the leg above the ankle-joint. A few loose splinters of bone were removed, and the ends of the fractured bone sutured together with silver wire; drainage tubes were inserted, and antiseptic dressings applied. The temperature never became higher than 38.1° C. Cure was complete without any necrosis, in less than four months.—*Med. Chir. Centralb.*, November 24, 1882.

TREPHINING.—DR. OBALINSKI relates in the *Wiener Med. Woch.*, No. 44, two successful cases of trephining. The first occurred in a man, aged forty-five, who, two weeks after a wound of the head, on the left side, showed gradually increasing paralysis of the right side, with augmented knee-phenomenon and some rigidity of muscle. On careful consideration, it was deemed fit to perform the operation of trephining, as it was thought probable that the symptoms mentioned were due to an abscess. The operation was done antiseptically. The dura mater was incised, some yellow matter escaping; the cavity was washed out with a one per cent. solution of thymol, drained, and dressed. Some reaction followed and lasted a few days, but patient's unconsciousness and the bad symptoms soon subsided, and he left the hospital at the end of nine weeks, at the end of which time the paralysis and rigidity had entirely subsided. Dr. Obalinski comments on this case in respect of the disappearance of the paralysis and rigidity. A thorough explanation of such phenomena is very difficult. The case is remarkable in that hemiplegic rigidity of any standing is generally looked upon as indicating sclerosis of the lateral columns. Such a lesion could hardly have been the cause of the increased knee-jerk and rigidity in this case. The second trephining was done for a depressed fracture of the right parietal bone. The patient was a laborer, twenty-five years of age; the symptoms were those usually assigned to compression of the brain. The treatment was again antiseptic, and quite successful, the man being allowed to return to his work in six weeks. The first-mentioned case is the more valuable: in it there was no aphasia; there was some paresis of the right facial muscles, and paralysis of the right arm and leg. If we suppose that there really was, as there seems to have been, an abscess about the convolutions in the neighborhood of the fissure of Rolando, it is remarkable that the paralysis should disappear, but still more so that the signs usually attributed to sclerosis of the crossed pyramidal tract should also fade away. Physiologists and pathologists have long disputed as to how the recovery from paralysis due to cortical lesion can be explained—some supposing that other portions of the same hemisphere can adopt the work of the destroyed convolutions; others holding that the corresponding area of the other hemisphere manages the business. However, no one pretends that we are yet near the goal of our ambition in regard to matters relating to the physiology and pathology of the nervous system.—*Med. Times and Gazette*, December 2, 1882.

THE MEDICAL NEWS.

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SATURDAY, DECEMBER 30, 1882.

BACTERIA AND THEIR RELATION TO INFECTIOUS DISEASES.

IN the introductory lecture to his course on medicine, PROF. JACCOUD considered the causation of infectious diseases. He first of all compared the latter with toxic affections. Both are named from an etiological standpoint; both are the result of the action of a substance introduced from without. But in infectious diseases there is something more. It does not follow that because the poison of a given infectious disease is not apparent, it does not exist. We cannot detect the malarial poison in marsh water, and the water of a spring which chemical analysis would indicate to be absolutely pure, may contain the poison of typhoid fever, traceable to a communication with a bed of fecal matter.

As to the nature of the poison, formerly so mysterious, much light has been shed upon it by recent researches on micro-organisms, in the first rank of which M. Jaccoud naturally places those of Pasteur. "The morbid poison," he says, "is in every instance associated with the presence of lower organisms." These are fungi, belonging to the group bacteria, and the class schizomycetes. Of these there are five principal genera: *Genus Micrococcus, G. Bacterium, G. Bacillus, G. Spirillum, and G. Vibrio.* The classification differs slightly from that of Cohn, generally adopted, which includes the *bacillus* and *vibrio* as genera under the class *desmobacteria*, or filamentous bacteria, and the *spirillum* as a genus of the class *spirobacteria.*

But while M. Jaccoud is willing to admit that bacteria play an important *role* in the causation of infectious diseases, he is not willing to admit that they are the exclusive cause. He claims that the liquids in which the bacteria live may also sometimes have infectious properties; nor is he willing to admit that there exists a special form of bacterium for every infectious disease, as some enthusiasts claim. They are known only by their results, not by their morphology, and that which makes a bacterium infectious is its source and not its shape. We are constantly surrounded in health by harmless bacteria which differ from those of diphtheria and variola, for example, only in their origin. But the infectious property, once acquired, is capable of being transmitted from generation to generation, even if artificially cultivated. We are therefore still ignorant of the true nature of the poison, since we are unable to distinguish the ordinary bacterium from the infectious one except by its results. Thus Jaccoud would make the bacterium the contagium-bearer rather than the contagium itself.

It is this point, the indifference of the bacterium *suo ipso*, and its dependence for its activity upon the medium in which it is developed, which would seem to be the distinctive feature of Jaccoud's views as compared with others who admit the significance of bacteria. Thus would be explained the well-known gradual attenuation of the poison in culture experiments, and the results of the experiments of Grawitz, Nägeli, and Buchner. The first of these claims to have communicated to harmless organisms (penicilium, etc.) harmful properties, while Nägeli and Buchner claim to have converted the harmless hay bacillus into the virulent *bacillus anthracis.*

THE TREATMENT OF TAPE-WORM.

OUR eminent pharmacological expert, DR. SQUIBB, in the issue of his *Ephemeris* for November, 1882, offers some practical observations on the "treatment of tape-worm." His conclusion is that an emulsion of pumpkin seeds, and, this failing, the oleoresin of male fern, are as useful as any other remedies; for, as we will presently learn, Dr. Squibb is most concerned in respect to the preparation of the patient, and the mode of administering the remedy. "Under ordinary good management," he maintains, "one parasiticide is about as good as another." His method of preparation consists in fasting and the administration of Seidlitz powders. "After a light dinner, near the middle of the day, the patient should take no food, but may drink freely of water." A Seidlitz powder is administered that evening, and, whether it acts or not, another is given on the following morning, after which the parasiticide is taken. Dr. Squibb's object in the exhibition of the saline laxative, he informs us, is to uncover the worm—to present the head to the action of the tæniafuge. The following is his mode of preparing the pumpkin seeds:

Four ounces must be well beaten in a mortar, half an ounce at a time, a few drops of water being added, until the whole is made into a paste. The shells should be retained, and not separated, as is usually done. The trituration is continued by the addition of water until a pint of emulsion is obtained. This quantity is given in three doses, the necessary quietude and forbearance of the stomach being secured by appropriate treatment. If the emulsion does not purge of itself, a dose of castor oil is given in a half hour after the last quantity, the worm coming away in the evacuation, which should, as Dr. Squibb informs us, be received in a vessel containing water to facilitate the proper examination of the parasite.

If the pumpkin-seed emulsion is rejected by vomiting, or fails to expel the worm, Squibb advises the oleoresin of male fern. The same mode of fasting and exhibition of a saline laxative are directed, after which the fern is administered in scruple doses every fifteen minutes (in capsules) until eight to twelve doses have been taken.

Entertaining the view that the tæniafuges are of equal efficacy, if rightly administered, the differences in result are to be referred to the position of the head. Squibb has observed, he informs us, that the "obstinate cases" are those in which the head is attached so low down in the intestinal canal, and so protected by a coating of tough mucus that the parasiticide does not come in contact with it. This fact, we understand him to say, he has verified on post-mortem examination. As his experience appears to have been gained in the Mediterranean, we are surprised that he does not refer to the difference in the staying power, so to speak, of the armed and unarmed tænia. It is a well-known fact, we believe, that the unarmed variety is very common in the south of Europe, and that tæniafuges which are promptly successful with this class, may be entirely unequal to the dislodgement of the armed tænia (t. solium, for example).

Our estimable and learned *confrère* has nothing to say of other remedies for the expulsion of tapeworm. We are quite disappointed that he does not once refer to Tanret's recent contribution to pharmacology—*pelleterine*, the active constituent of pomegranate, which has proved to be a most efficient remedy. Pumpkin seed and fern are very well, but from Dr. Squibb we expect full information on all sides of a subject. It would have been very gratifying, therefore, if he had gone further into the subject of tæniafuges, and given us exact information in regard to their comparative value.

"THE TYPICAL YANKEE, LANK AND SHRIVELLED."

"ACUTE Americanitis" is the presumably felicitous term by which Mr. Williams, a scientific Englishman, describes in *Knowledge* the effect of our climate on the rotund, not to say obese, inhabitant of the British Islands.

The "lank and shrivelled Yankee" is, from this point of view, merely "a desiccated Englishman." He refers in explanation to the experience of his own son, who came to this country on a scientific expedition, and his letters soon exhibited "a state of abnormal excitement; he grew taller, thinner, lank-jawed, and sallow," and was presently sent home in a "dazed" condition. In other words, this young Englishman was not equal to the demands of the intellectual life into which he was thus suddenly thrown, and fell into a state of confusion, for which the only remedy was a return to the sober, staid, and unvarying conditions of English life. Mr. Williams supports his theory of acute Americanitis, by the experience of Mr. R. A. Proctor. This ingenious vulgarizer of scientific astronomy, on coming to this country expends his energies in popular lectures. Resting in England on the vulgar dollars acquired here, he adds rapidly to his adiposity by the beer and roast-beef of old England. On this side the water, busily occupied, *more Americano*, he consumes no little of the stores accumulated by the good feeding and the solemn repose of his own country. The thirty pounds of adiposity thus consumed is a sacrifice to Mammon, and the American climate is a convenient scapegoat.

Is there any reason to suppose that our American climate is causing a gradual desiccation of rotund John Bull? An attentive examination of the data now at our disposal, must conduct one to the conclusion that truth exists in two propositions:

1. Those recently introduced to the climatic and social conditions of America may consume some extra adipose tissue in the effort to maintain an equal pace with the habitual rate of progress of our citizens.

2. The influence of the American climate on the progeny of Europeans seeking a home here is in the direction of increased bodily development.

The first postulate may be accepted as largely true. "Acute Americanitis"—by which term we mean the effect not only of the climate, but of social conditions of our American life—makes a large demand on the stored-up resources of the human organism. The second proposition involves new considerations. Are there any data, by the application of which we may estimate the influence of our climate on the bodily development and mental vigor of the American race? Observation of the ordinary product of emigrants to this country after three or four generations, and the statistics of the Provost-Marshal-General's Bureau during the late war afford us the necessary data. Any one attentively regarding the descendents of old Puritan, Knickerbocker,

Huguenot, and Creole families, who have been acted on during many generations by the climatic conditions of America, must observe a very marked tendency to fulness of habit, to obesity even. In fact, "the lank and shrivelled Yankee" belongs to that era when the first impressions of the American climate were made on the nutritive functions of European emigrants.

But more conclusive than any mere observation are the statistics of the Provost-Marshal-General, collected under circumstances in which the tendency would be to exaggerate deficiencies of all kinds. These statistics show that the average bodily development of Americans, sprung from European ancestry, is much greater than the ancestral prototype. We may, therefore, reject with a justifiable confidence the fears of our English cousins, lest the lank Yankee prove to be only "a desiccated Englishman." The remedy proposed by Mr. Williams for this melancholy state of affairs is eminently characteristic—that the decaying Yankee return from time to time to his native soil, to procure a fresh supply of the English life-giving principle.

EARTH DRESSING IN GERMANY.

NEUBER, in a report on antiseptic surgery, discusses the various materials available for this purpose, partly from the economic, partly from the efficiency point of view.

Two years ago, he says, he was made acquainted, quite accidentally, with the remarkable antiseptic qualities of earth. A laborer, having suffered a compound complicated fracture of the forearm, induced a comrade to surround his injured parts with a paste of earth mould. On subsequent examination of the arm at the clinic, it was found to be doing admirably, there being not a trace of suppuration, and union took place readily. The result of this observation has been the adoption of earth as an antiseptic dressing at Esmarch's clinic. It is placed in bags of gauze, previously wrung out in a 5 per cent. antiseptic solution, and laid upon the injured surface and retained by a gauze bandage. This dressing has now been applied in a number of cases, with the following results: 133 cases have been so dressed; in 85 per cent. the wound was found to be healed on the removal of the dressing.

Very naturally, the cheapness and efficiency of this treatment has excited high enthusiasm amongst our German colleagues. They will be greatly astonished to learn that they have been anticipated in this discovery, and that Dr. Addinell Hewson, of Philadelphia, had written a volume on the subject long before their untutored rustic presented himself at Esmarch's clinic, healed with an earth dressing.

BRITISH PIRACY AGAIN.

IN one of our earlier numbers for this year we showed the scandalous fraud practised on the British public by Ward & Lock, of London, in the republication of the *American Health Primers* under an English disguise, with the total omission of the names of the authors. We showed also that, though the *Lancet* had been fully informed of the fraud, yet it had never said a word of condemnation.

Such examples we considered to be very exceptional and we confess our surprise in looking over the November number of the *Edinburgh Medical Journal* to find on page 444 a "review" of Baginski's pamphlet on the "Function of the Semicircular Canals," which had a familiar tone, and the more we read of it, the more it seemed not only an echo of our own opinions, but also of our own words. On referring to the MEDICAL NEWS for February 4, 1882, page 140, we found that memory had not misled us. The so-called "review" of our Edinburgh contemporary is our own review *verbatim, et literatim, et punctuatim.* No! we are in error; twice we had it "Menières disease;" twice the *Edinburgh Journal* has "Menière's disease." Scotch air favors accurate orthography. We could wish it were equally favorable to good morals. Fancourt Barnes and Ross need not feel so downhearted, as we fear they did not long since, when this same *Edinburgh Journal* mercilessly exposed their thefts and plagiarisms.

WE regret to have to announce that in the Army Appropriation Bill the Committee on Appropriations of the House of Representatives have reduced the usual annual appropriation for the Army Medical Museum and Library one-half, having allowed only $5,000 for both, instead of $5,000 to each, as has been done for the last ten years. We had hoped that the importance and usefulness of these institutions and the unanimous feeling of the medical profession of the country in their favor had by this time become so well known to Congress that they would be provided for without question. It seems that in this we have been mistaken, and that Mr. Butterworth, of Cincinnati, Ohio, who reported the bill, has, from some motive unknown to us, determined to cripple these interests, and that a majority of the Committee have been so careless as to follow his lead. We sincerely hope that the Senate will correct this blunder, and we advise physicians who have any acquaintances among members of Congress to remonstrate vigorously against this excessively ill-judged attempt at economy.

PILOCARPINE, as our readers are aware, has lately been much vaunted as a remedy for hydrophobia. Some cases have been published in which it seemed

to have curative effects. M. NOCARD, who has especially favorable opportunities for information by reason of his position at the Veterinary College clinic, has recently published a note, giving his conclusions. We need not follow him through his various experiences; it will suffice to state the conclusions to which he is finally conducted:

1. That pilocarpine has neither curative nor prophylactic action in hydrophobia.

2. That it does not effect in enraged animals any modification of the crises which characterize the furious form of the disease.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, November 28, 1882.

THE PRESIDENT, THOMAS MARKOE, M.D., IN THE CHAIR.

DR. J. C. HUTCHISON read a paper on

SUBCUTANEOUS OSTEOTOMY BELOW THE TROCHANTER.

DR. SANDS referred to a case occurring in an adult, in which he performed Adams's operation. The deformity was anchylosis at an angle of 110°, the result of articular rheumatism. He divided the neck of the femur, and the wound healed by adhesion under a simple dressing. The man was kept in bed for six weeks with a view of obtaining bony anchylosis in a straight position, but a false joint formed, and when he left the hospital, two months after the operation, the limb was shortened one-fourth of an inch. A year and a half after the operation the limb was shortened three-fourths of an inch, and still there was a movable joint, but the deformity was entirely relieved. As in Dr. Hutchison's case, it was necessary to divide some of the tendons in order to bring the limb into the proper position. The final result was that the patient was able, without a cane, to walk with only a slight limp, and with a cane no limp could be detected.

DR. C. T. POORE remarked that he had not seen reported cases in which motion remained after section high up, except in Dr. Sand's and Dr. Sayre's cases, and one published by Dr. David L. Rogers, in 1830, in which motion existed three and a half years after the operation. Barwell, of London, has reported a case in which he performed double section high up, adopting Gant's method, and the patient died on the forty-seventh day from bedsores. The case was one of anchylosis from double strumous hip-joint disease. He thought that osteotomy, as performed by any of the usual methods, could hardly be called subcutaneous.

DR. HUTCHISON thought that Gant's operation was subcutaneous, as the skin was drawn well to one side before the puncture was made. .

DR. POST had performed osteotomy at the upper part of the femur in two cases. In the first, performed many years ago at the New York Hospital, he divided the bone just below the lesser trochanter by an open section. The limb became gangrenous, and the patient died. At the autopsy it was found that the great vessels had become caught over the upper fragment of bone, and in that manner the circulation in the limb had been destroyed. The other case was one in which there had been double morbus coxarius. On a former occasion he had excised the head of the femur upon one side. The head of the femur upon the opposite side subsequently became diseased, and anchylosis occurred while extension was being used. As there was profuse, deep-seated suppuration around the bone, Dr. Post commenced the operation with the view of excising the head of the femur. But, finding that the head was inseparably connected with the acetabulum, he divided the bone with a saw just below the trochanter minor, and as the limb was considerably longer than its fellow, having divided the bone he removed a piece, so as to make the two extremities of nearly the same length. Anchylosis took place after the operation; the limb was in the straight position, and was useful.

DR. HUTCHISON said that one of the most interesting cases he had met with among those reported was Mr. Lund's, of Manchester. There was anchylosis at both hip-joints, the result of rheumatic arthritis. The patient was unable to sit, could only stand or lie down. Mr. Lund performed Adams's operation, and succeeded in getting false joints, after which the patient was able to sit and walk very comfortably. The result was attributed largely to a suggestion made by Mr. Adams that the patient draw up the limb several times a day, while the weight and pulley were attached, for the purpose of preventing union of the bone.

DR. GEORGE A. PETERS directed attention to another method of correcting the deformity, namely, fracture of the bone, which he had regarded as safer than dividing the bone through an open wound. One difficulty, in applying the method, had been to produce the fracture at the exact point desired. This he thought had been overcome by the osteoclast devised by Dr. Fayette Taylor, a complete description of which had been published in the *New York Medical Journal*. In the case reported, Dr. Taylor fractured the femur just below the trochanter, straightened the limb, and Dr. Peters took charge of the case during its progress. The result was complete union with limb in good position. At the time the operation was performed, it seemed to him to be a much safer procedure than section of the bone, and he should be inclined to adopt it.

DR. BRIDDON referred to the case of a girl, 18 years of age, who entered the Presbyterian Hospital with anchylosis at the hip-joint, and anchylosis of the right hand. As he recollected, the heel was five inches from the floor. While making an examination under ether, he accidentally fractured the bone about four inches below the trochanter minor. The limb was placed in the straight position, a fixed apparatus was applied, and union took place. The result was very good. The shortening was very much diminished.

DR. SANDS said he was unable fully to understand how any instrument could determine the point of fracture within half an inch. If it was desired to fracture the bone where it was thickened as the result of inflammation, he should fear that it would give way at its weakest point. In his case the bone was excessively firm, and twenty-five minutes were occupied in dividing it. He was quite certain that the application of a force sufficient to cause fracture would have broken it at some lower point. With regard to the relative safety of osteotomy and fracture, he doubted if there had been sufficient experience to enable us to compare the two operations. Certainly osteotomy had been remarkably successful; and he should apprehend that if force enough was applied to cause fracture, the large bloodvessels might occasionally be injured.

DR. PETERS said, that when Dr. Taylor first proposed the operation he objected to it for the same reasons which had just been given by Dr. Sands; but when he saw the apparatus, and especially after seeing it used, he believed that there was an almost absolute certainty that the bone would not be fractured except at the exact point selected.

The PRESIDENT suggested that fracture at a precise

point, although he had not tried it in the class of cases under consideration, might be secured by first using Brainard's drills, and afterward the osteoclast. He had used the drills in several cases of vicious union with satisfactory results. Another suggestion was with reference to the accident which had occurred in Dr. Post's case. Perhaps the danger had been somewhat overlooked of the sharp edge of bone wounding or abraiding important vessels. This accident had occurred to him—and Dr. Peters would recall the case—after dividing the bone in the middle portion of the femur with great difficulty with a chisel, in a case in which the bone exhibited a deformity nearly at a right angle; after necrosis he had the misfortune to rupture the femoral artery in making extension for the purpose of bringing the fragments of bone into proper position. The result was that the limb was destroyed, although the patient's life was saved by amputation high up. On examination of the limb after amputation, it was found that the artery had become attached to the posterior surface of the bone as the result of long-continued inflammation in connection with the necrosis, and of course when the bone was straightened the artery was torn across. He thought it was one of the points to be borne in mind in all operative procedures in this class of cases.

LITHOLAPAXY THROUGH THE PERINEUM.

DR. GEO. A. PETERS reported a case as follows: On the 6th of November he removed a stone from the bladder of a boy 10 years of age, who had suffered from symptoms of vesical calculus for five years. On examining the bladder with a Thompson's searcher, a stone was readily detected, and it was estimated to be of large size, hard and rough. The patient was prepared for the examination, and after he was placed upon the table, bimanual examination with one finger in the rectum and pressure made above the pubis detected a stone in the bladder, which was then estimated to be an inch in length. Appreciating the fact that he had to deal with a large calculus, Dr. Peters determined to perform the median operation with some modifications, and through the opening thus made in the urethra to crush and remove the fragments. The modification consisted in making the incision through the skin and some distance through the soft parts, and then introducing the knife in the usual manner, touching the groove in the staff, and dividing the urethra. A pair of forceps was then introduced into the bladder, with the expectation of being able to crush the stone; but it was found to be at least one and three-fourths inch in diameter, and the instrument too weak to break it. Considerable difficulty was then experienced in removing the forceps from the stone, as the bladder was empty and had contracted firmly. The forceps being removed, a short lithotrite, which had been made for him by Wiess, of London, for crushing stone in the female bladder was introduced, but after the calculus was grasped it proved to be so large that the instrument could not be locked; Bigelow's large lithotrite was then introduced, the stone secured and crushed several times, several of the large fragments removed with the forceps, and the operation completed with the scoop, passing it over every portion of the bladder. On introducing the finger, he found that the irritation produced by the operation had caused hour-glass contraction, so that there were some fragments shut up in the upper part of the bladder. Finally the bladder was completely emptied; the fragments and detritus collected weighed 470 grains. During the subsequent history of the case nothing of special importance occurred except high temperature—105° F.—during the first part of the twenty-four hours, but that readily yielded, and on the sixth day the boy began to pass water through the penis, and on the twelfth day the urine was passed entirely in the normal manner. From that date the case had progressed favorably.

Dr. Peters suggested that, should he again be called upon to operate in a similar case—a young bladder containing a large stone—he should perform litholapaxy through the perineum in the following manner: Make an incision in the perineum, enter the urethra a little farther forward than in ordinary median lithotrity, and by an incision only large enough to admit a lithotrite, and through that opening crush the stone and evacuate the fragments as in ordinary rapid lithotrity with Bigelow's apparatus.

In connection with the report of this case, DR. PETERS exhibited

AN APPARATUS FOR SECURING GOOD POSITION IN ALL OPERATIONS ON THE PERINEUM, THE BLADDER, THE VAGINA, OR THE RECTUM.

It had been brought from London by Dr. T. A. Emmet, and consisted of two padded rims, rings, or bands to encircle the leg just below the knee; to one ring was attached a steel pad; through the other a barrel which received the rod. The rod could be secured at any point by means of a thumb-screw passing through the wall of the barrel, and thus permitted any degree of extension required (consequently separation of the knees and placing the perineum on the stretch). To the inside of one ring was attached a strap which had to pass around the patient's neck and be held fast with a buckle at the inner side of the opposite ring. With this strap the elevation of the limbs could be regulated.

CANCER OF THE THYROID BODY.

DR. A. G. GERSTER presented a specimen removed last August from a patient 62 years of age. It had the following history: The woman, very fleshy, had carried a goitre for several years. During the last five years she had suffered from periodical attacks of dyspnœa, which passed off without special treatment. For about four months before he saw the patient the dyspnœa had been almost constant, and the general symptoms had increased in severity to an alarming extent. On examination he found in the median line of the neck a tumor about the size of an orange, and hard. It moved up and down with deglutition. The dyspnœa was so marked that the wheezing inspiration of the patient could be heard in the second and third rooms distant. Her face and lips were slightly cyanosed, and she was obliged to maintain the upright position. There was evidence of fatty heart, a certain amount of pulmonary emphysema, apparently induced by the tumor. Several methods of treatment had been employed before he saw the case, and last some sort of injection into the tumor by an irregular practitioner. From that date the alarming condition took its origin. The tumor was attached to the anterior surface of the trachea, and it was evident that tracheotomy, so certainly indicated, could be performed only with great difficulty. One of the two ways could be adopted in performing tracheotomy—either cut directly through the tumor, or remove the tumor first and afterwards open the trachea. He was unable at that time to decide which he would adopt. The patient, however, declined any operative interference and went away. Not long afterward Dr. Post saw the patient and proposed tracheotomy, but the proposition was declined. Finally, Dr. Gerster was called, and was asked to resort to whatever surgical procedure was necessary. Not having a canula of the proper size he was obliged to extemporize one as follows: Three inches and three-quarters of the curved end of a tin catheter of No. 13 English calibre were cut off for a canula. A suitable

piece of sheet-brass was perforated in the middle for the admittance of a canula, which latter also received the two lateral holes near the end fitted to the plate. Two wire loops placed near the large aperture of the plate served to hold the canula and the plate together by means of a wire pin thrust through the loop of the canula.

Although the woman had fatty heart, and her general condition was very bad, he preferred to use chloroform on account of the threatening lung complication. The anæsthetic was administered without accident. An incision extending from the chin to the jugular fossa was made in the median line, and down to the capsule of the tumor. This did not give sufficient space, and a second incision was made at a right angle with the first at about the middle of the neck, and extending from the anterior margin of one sterno-cleido-mastoid muscle to the first incision. Beginning at the lower border of the tumor he proceeded to enucleate the growth, and soon discovered that it was attached to the anterior surface of the trachea. Whenever he lifted the tumor the trachea was so much compressed as to prevent the entrance of air into the lungs. By means of a blunt instrument he therefore dissected the tumor off, and then found that the tracheal rings from the first to the fifth had been involved in the disease. After the trachea had been laid bare there was no diminution in the severity of the dyspnœa. An incision was made through the tracheal rings, and the tube was introduced. No unfavorable symptoms followed. The patient recovered rapidly from the anæsthetic, and took food shortly after the operation. During the first twenty-four hours she had slight fever. In the afternoon of the second day she had an attack of threatening collapse, for which stimulants were given, and she rallied. It was ordered that the stimulants be continued, and increased should threatening symptoms again appear. Either through failure to give sufficient explicit directions or lack of understanding on the part of the attendants, stimulants were given to the extent of producing acute alcoholic intoxication, and on the evening of the third day she was a maniacal drunken person, and in the drunken fit died in collapse.

Dr. Gerster reported the case for its interest in the manner of death equally as much as for the interest in the tumor itself. The tumor had been examined microscopically and determined to be a cancer. Prognosis in malignant growths of the thyroid gland was very unfavorable. In a recent number of Langenbeck's *Archiv*, a synopsis had been given of the published cases, and it had been found that most of the patients perished shortly after an operation, whether for removal of the body or for tracheotomy necessitated by the great difficulty of breathing. But despite the bad prognosis he thought the surgeon was justified in attempting to give the patient relief. The hemorrhage at the operation was very slight, as every portion of connective tissue was divided between two ligatures. In reply to questions, Dr. Gerster remarked that the tracheal rings could not be recognized by sensation as the knife passed through the tissues, and yet the trachea maintained its usual appearance after the tumor had been removed from its anterior surface. In most of the cases similar tumors had existed in the mediastinum, and tracheotomy was therefore performed to obviate death from sudden development of subsequent attacks of dyspnœa.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, Wednesday, December 6, 1882.

The President, W. S. W. Ruschenberger, M.D., in the Chair.

Dr. W. W. Keen, presented a

REPORT UPON A SPECIMEN OF XANTHIC OXIDE CALCULUS,

for Dr. George L. Porter, of Bridgeport, Conn. The specimen consisted of one-half of a stone, an inch and a half long and an inch wide, which is to be deposited in the Museum of the Jefferson Medical College; the other half is in the Army Medical Museum, Washington, D. C.

So rare is this calculus that, including the present specimen, only eight have ever been described, and none of them so completely as Dr. Porter's. Moreover, this is the only specimen ever recognized and described by an American surgeon. Four of the specimens are British, two French, and one German. Marcet in 1817 described the first calculus of this kind which was recognized.

The present stone was passed spontaneously by a woman eighteen years old. Its clinical history presents nothing specially worthy of note, but its chemical constitution makes it very interesting. Xanthine or xanthic oxide is analogous to uric acid, having, however, one less equivalent of oxygen, and is the rarest of all calculi. In the *New England Medical Monthly* for May, 1882, Dr. Porter relates the case in full, with a drawing of the stone, and an analysis and comparison of the eight cases on record and some interesting remarks on xanthic oxide itself.

Dr. John B. Roberts stated that in 1873, Dr. R. J. Levis operated for vesical calculus by lithotrity on a man. The patient, who was aged 69 years, was an inmate of the Pennsylvania Hospital. The fragments were examined by the late Dr. H. B. Hare, the well-known pathological chemist, and found to consist of xanthic oxide. The patient was discharged by request of his friends, while some of the stone still remained in the bladder, and passed from the surgeon's observation.

Dr. James Tyson said that in connection with the case just reported by Dr. Keen, he desired to place on record a case which came under his own observation, of persistent cystin sediment in urine, concurrent with impacted oxalate of lime calculus. G. B. W., a very intelligent physician residing in one of the southern counties of Pennsylvania, and 45 years of age when he first saw him, was lithotomized in Baltimore when he was 28 years old, and a calculus of pure *cystin* removed. From that time he continued, according to his own account, to pass cystin daily. Early in January, 1879, a specimen of urine was sent to Dr. Tyson in which there was considerable pus and a proportionate amount of albumen. In this specimen there was found no cystin, but in later specimens there were found large numbers of the characteristic crystals along with pus and albumen. A little later Dr. Tyson visited him at his home, and found him suffering greatly with extreme lumbar pain, attacks like which he had frequently had before, but the present was one of unusual duration, and had greatly prostrated him. There seemed every reason to believe there was calculus impacted somewhere between the left kidney and the bladder. His sufferings continued, and he was only relieved by death, which occurred on the 6th of March, 1879.

The following notes of the autopsy were received from Dr. Wm. B. Rowland, of Rowlandsville, Md.: The *post-mortem* examination revealed a calculus in the left ureter just ready to pass into the bladder. The

calculus was the size of a large pea, and very rough. Just behind where the calculus was found in the ureter was a collection of pus, dipping down into the pelvis, which would soon have made its exit through the ischiatic foramen if life had been prolonged.

The left kidney was somewhat enlarged, and the right was not more than one-fifth the usual size, but apparently healthy. The bladder, stomach, and bowels were healthy. No mention was made by Dr. Rowland of the liver, which was presumably healthy, but there was found in the gall bladder a calculus an inch long and half an inch in diameter throughout its length.

The calculus, which was exhibited to the College, presented none of the physical and chemical characters of cystic calculi, which are smooth and friable, but is evidently oxalate of lime. This is particularly interesting in view of the fact that a cystin calculus was removed by lithotomy seventeen years earlier, and that the patient so persistently passed cystin crystals up to the time of his death.

THE ANNUAL REPORTS OF THE STANDING COMMITTEES were then presented.

The Publication Committee reported a larger contribution of interesting papers to the forthcoming volume of *Transactions* than has ever been made before.

The Library Committee reported that the library contains 23,653 volumes, of which 15,901 belong to the general library, 6,208 to the "Lewis library," and 1,544 are duplicates. During the year 1882, the additions to the library amounted to 1,234 volumes. A complete card catalogue of authors and subjects has been made of the "Lewis library," and that of the general library is well advanced. The library of the late Dr. H. Lenox Hodge, containing 1665 volumes, is deposited with the College in trust. The constant and rapid growth of the library obliged the committee to urge a liberal appropriation for the extension of the shelfroom and the payment of the librarian and the assistant charged with preparing the catalogue. Next to the Library of the Surgeon-General's office, that of the College of Physicians of Philadelphia is the largest medical library in the United States.

The Mütter Museum Committee urged the necessity of providing increased accommodation for the museum.

During the last year a large number of valuable preparations have been received:

From Framond, of Paris, 100 wax specimens illustrating diseases of the eye; 22 preparations (natural) showing dentition from early life to old age; 20 casts of female pelves taken from noted cases of deformity; 1 large wax model of thoracic duct and lymphatics; 2 rubber models of pelvic viscera, male and female; 1 wax preparation of confluent smallpox; 1 wax preparation of syphilitic disease of scalp; 4 natural lymphatic injections of foot, hand, and stomach, also an injection of the canal of Fontana; and 1 adult skeleton, mounted at Royal College of Surgeons, London.

They have also received from Rohon, of Vienna, six mounted skeletons, illustrating stages in development, with known age and history to each.

They have procured and had mounted the skeleton of a noted case of hydrocephalus.

Also through Dr. Hays, the Committee obtained the body of a cyclops which was dissected, and reported upon by Drs. R. Meade Smith and A. J. Parker (see *The American Journal of the Medical Sciences* for July, 1882). A good plaster cast and two drawings were made from it. Other preparations of importance were also received.

The Committee on the Directory for Nurses reported that the Directory was opened May 15, 1882. Rooms for the secretary were fitted up, and the telephone and telegraph introduced. Circulars and blanks to the number of 8,500 were prepared and widely distributed to all the physicians in Pennsylvania, New Jersey, and Delaware, and to the summer hotels within easy reach of this city. The coöperation of the two training-schools for nurses (the oldest two in the country) was secured, and the medical and daily press of the city showed a very friendly spirit, and assisted us in making the Directory known. The following are the rates of charge adopted: For information leading to the engagement of a nurse between 7 A. M. and 6 P. M., one dollar; between 6 P. M. and 10 P. M., two dollars; between 10 P. M. and 6 A. M., three dollars; for wet nurses, uncertified, five dollars; for wet nurses, certified (after careful medical examination of mother and child), ten dollars; for finding and sending a nurse, an additional dollar. Up to December 1, the number of applications for registration has been 296. Fully registered, 214; approved and awaiting registration, 17; disapproved, 19; stricken from roll for grave faults or defects, 2. Of the registered nurses there are 26 males and 187 females; 35 graduates of training-schools; 165 non-graduates; manipulators, male and female, 11; cuppers and leechers, 3.

The number of calls for nurses has been 342 during the seven months, an average of about 50 a month. We have furnished as many as 8 in a day, and 5 to a single family. One of the most important results achieved through the Directory is the promptness with which calls to grave emergencies are met. Another and very marked advantage of the Directory is, that we not only give information as to disengaged nurses, but, if desired, will find and send them to the patient. This saving of time and trouble to applicants is often very desirable, and the small extra fee charged for the service (one dollar) is very gladly paid. Especially is this service valuable to patients out of the city.

We have also undertaken to supply wet-nurses. We have had 35 applications, but have only been able to supply 13, and we beg especial attention to this fact, in order to obtain many more of this class of nurses.

Our expenses have exceeded our income by a very large amount, and had it not been for the generous contributions of many friends, chiefly through Mrs. Weir Mitchell, the Directory could not have been placed on a firm foundation at its start. Next year it is hoped that it will be about self-supporting.

CORRESPONDENCE.

COLOR-BLINDNESS IN THE RAILWAY AND MARINE SERVICE.

To the Editor of THE MEDICAL NEWS.

SIR: In your number of December 2d, page 644, you state that Sweden refuses to allow a color-blind railroad employé or sailor to be in service. The edicts from the King of Sweden, of July 17th, to go in force January 1, 1883, may be found in the *Railway Review*, of Chicago, of October 21st. The edict as to the railroads says, that no one shall be employed without a proper certificate from a competent physician, duly authorized, as to freedom from color-blindness.

Quite different as to sailors. The King, in the edict, in reply to the request of the Chamber of Commerce asking for a control of the color-sense of seamen, says, "Since, however, the purpose of such edict cannot be gained on seas navigated by foreign ships unless the color-blind are as well forbidden to man these, and as the governments of the principal maritime nations have as yet come to no international agreement as to the control of the color-sense, we have for the present, and until such agreement is come to, not found reason to absolutely forbid the employment on board Swedish

ships of seamen lacking a normal color-sense, but decided that the law in this matter shall be confined to a proscription requiring anybody desiring to ship in a shipping-office to procure a certificate as to his color-sense, by which ship-owners and masters may be enabled to avoid employing the color-blind in duties requiring the distinguishing color signals. Pending this, we have to-day issued a proper edict, hereby communicated to you."—Stockholm, July 17, 1882.

It will be seen that Sweden as well as the other European countries awaits the action of the present Congress, before whom is a bill authorizing the President to initiate an international commission. The same bill was reported, but not acted on, by the previous congress. It can be brought up and carried through by the naval committee if the public press will assist in calling for it, and spreading a knowledge of the circumstances through the several communities of the country. I remain,

Respectfully yours,
B. JOY JEFFRIES, M.D.

BOSTON, December 12, 1882.

A CARD FROM WM. R. WARNER & CO.

To the Editor of THE MEDICAL NEWS.

SIR: The article in the last number of THE MEDICAL NEWS on the Analysis of Quinine Pills does us great injustice. Our house and products have been known to the medical profession for a quarter of a century, and no guarantee is needed as to our intention and desire for the superiority of our preparations.

It is claimed by eminent chemists that the analysis of quinine, particularly when presented in the form of pills, is very unsatisfactory and uncertain, and we must conclude that there is as much liability of error on the part of the analyst as on our part in making up these pills. Had we been given a hearing in the matter before the article was published, we could have satisfied you and through you assured the profession of our care and accuracy.

Respectfully,
WILLIAM R. WARNER & CO.

PHILADELPHIA, 12, 22, '82.

To whom it may concern:

The recipe for making two (2) grain quinine pills is copied in a book kept for the purpose; said book being in my custody and under my supervision as Superintendent of the Laboratory Department of William R. Warner & Co., and that said recipe is so proportioned that each pill should contain the full amount of material as expressed on the labels, and that each working slip is copied from said book as above.

And further: That in each instance a full quantity of material (quiniæ sulph.) is furnished to the person who manipulates the mass, for each lot of said pills ordered to be made.

And further: That it has always been the intention of the subscriber, acting for the said Wm. R. Warner & Co., that the said pills should be correct in composition and weight.

FRANK M. RAMSEY.

Sworn and subscribed before me this 23d day of December, A. D. 1882. } FRANK M. RAMSEY.
W. W. DOUGHERTY,
[L. S.] *Notary Public.*

I superintend and assist in the making of all quinine pill masses in the manufactory of Messrs. Wm. R. Warner & Co.

The recipes are so constructed as to yield definite results, and I always receive the full quantity of quinine for each lot of pills to be made.

I have never been dictated to nor influenced by any one in any manner to make short weight or adulterate quinine entering into pills.

These pills have always been made as accurate as my skill and good intentions could suggest.

GEORGE A. HAFFA.

Sworn and subscribed before me this 23d day of December, A.D. 1882. } GEORGE A. HAFFA.
W. W. DOUGHERTY,
[L. S.] *Notary Public.*

NEWS ITEMS.

NEW YORK.

(*From our Special Correspondent.*)

HEAVY DAMAGES AGAINST THE CITY.—Martin Lighott recently brought suit against the city for $25,000 for injuries received, his wagon having run into a large hole in the street. Drs. Janeway and Sayre testified that the resulting trouble was Pott's disease, and Drs. Allan M. Hamilton, Meredith Clymer, W. A. Hammond, and L. A. Stimson held that the patient suffered from sclerosis of the cord due to cold and exposure. The jury considered that the man's condition arose directly from circumstances connected with the injury, and gave him the full amount. This is the largest verdict ever obtained by any individual who has sued for damages.

LIBERATION OF INSANE PATIENTS.—Much excitement has grown out of the liberation of six or eight patients from the Ward's Island Asylum. There can be no doubt of their insanity, judging from the facts, and we may expect, as a result, a wife-murder or two, and several suicides.

The newspapers, as usual, appealed to the feverish and unreasonable sentimentality of the public, and several so-called "experts," who usually hang about the courts, were found who were ready to "testify." One of these solons satisfied himself of the plaintiff's insanity by asking him "whether he had any delusions," and upon the denial of the patient the matter was settled—at least in his mind.

The sympathy of the respectable portion of the profession is with Dr. A. E. MacDonald, the Superintendent of the Ward's Island Asylum, who has suffered from the interference not only of the shyster lawyers who have invaded his asylum, but of the impertinent meddling of various visiting boards, which, as usually found, are composed of idle and eccentric reformers, silly simple women of uncertain age, with irritable ovaries and hysterical tendencies, and fussy nobodies.

PRACTISING WITHOUT LICENSE.—"Dr." Franz E. Ruhnberg was arraigned for practising medicine without having registered under the State law of 1881, governing the licensing of physicians. He pleaded guilty and was fined $250.

THE COLLECTIONS OF THE HOSPITAL SATURDAY AND SUNDAY ASSOCIATION in three years have amounted to $113,000. There are seventeen hospitals affiliated with the Association, and in the past year they have given free treatment to 6,945 patients. Auxiliary societies are forming; the dry goods trade have organized one, and the Stock Exchange proposes to form another. A contributor of $10 or more, annually, will be considered a member and be entitled to nominate a patient for free hospital treatment.

A NEW WEEKLY.—The lunatics at the Ward's Island Asylum are about to publish, next January, a weekly newspaper called *The Moon*. They will write all the "copy," set the type, and print the paper. There are

a large number of practical printers among the inmates of the asylum. Its printing office has a fine press run by steam, and a lever press for job work. All the printing of the Department of Charities is done in this office.

CATSKILL, N. Y.

(*From our Special Correspondent.*)

The Medical Society of the County of Green (N. Y.) and the New Code.—The Medical Society of the County of Green, at its stated meeting held December 12th, voted down a resolution expressing approval of the New Code.

BOSTON.

(*From our Special Correspondent.*)

Dr. Carpenter on Human Automatism.—*The fourth lecture* treated of automatism of the intellect, the subject being introduced by the statement that when we *will*, it is not the muscular movements and combinations by which results are effected that we will, but the results themselves. The eye is moved by four direct and two oblique muscles. When we will to raise or lower the eyes, corresponding muscles are called into play in each orbit, but when we will to turn them from side to side, the inner muscle of one eye acts in unison with the outer muscle of the other, a fact which leaves no trace upon the consciousness. Again, if we will to fix the eyes upon some object, and at the same time will to turn the head from side to side, the ocular muscles perform automatically the motions requisite to preserve the fixed gaze of the eyes. The oblique muscles are still more demonstrably automatic, for not only is there no conscious direction of them by the will, but even their use was unknown until Helmholtz explained it.

Some light is thrown upon acquired automatism by misspelling or the use of wrong words in the automatism of writing. In this it usually chances that the letter or word is simply out of place, being one which is coming later in the sentence, but is prematurely grasped by the automatism.

Acquired automatisms indicate the formation of new nerve structures in the nervous system and whose tendency is to become hereditary. This is especially true of automatisms formed early in life, when large additions to the system are being made, and these under the influence of habit readily take certain forms which, once acquired, incline to perpetuate themselves. Habits formed in maturer life are more difficult of acquisition and fade out more rapidly, as is shown in the experience of every musician, who knows that daily practice is necessary to keep his automatism in working order.

A purely intellectual automatism is the probable inexplicable process whereby we refer a sensation—which is wholly a subjective phenomenon, its real seat, therefore, being within the cerebrum—to the localities in the body in which reside the terminal fibres of sensory nerves. If the nervous tract be shortened, as in amputation, or if the nerve be unusually excited at some intermediate point, the sensation is nevertheless mentally referred to the normal end of the nerve. The well-known illustrations of pain or coldness in the foot or hand of amputated limbs were used in proof. A slight electric shock to the inner fibre of the optic nerve will give a sensation of light, no change having been experienced by the retina. Sensations are suggested by mental conditions—*e.g.*, the sight of a heaving sea often causes seasickness. The model of a ship when caused to pitch and roll in imitation of a real ship, frequently produces the same result.

An old physician has recorded that the appearance of the decomposing body of a dog caused him to vomit, and that years after merely the sight of the place where the dog had been seen produced a repetition of the experience. The explanation is that the optic nerve conveys the impression it receives to the ganglionic tract at the base of the skull, whence it is sent to the cerebrum, where it is compared with other impressions supplied by memory, the result being a message to the muscles concerned in emesis, the whole being automatic. Spectral illusions, visual presentations of numerals, etc., are to be similarly explained.

The influence of concentration of attention upon selected impressions is to exalt in an astonishing degree the range and accuracy of the perceptions upon which the attention is fixed. Laura Bridgman has been known to recognize, after a lapse of twelve months, a comparative stranger by a clasp of the hand. That this in the main is due to the exclusive direction of the attention to certain senses and not to a sharpening of the senses themselves, as is commonly supposed, seems to be proved by the experiments of Dr. Bray, of Manchester, England, upon cases of artificial sonambulism. One patient exhibited remarkable exaltation of the sense of touch and the muscular sense, so that, while unable to see, he would write easily, with proper spacing of words and lines, returning at the end of a line to dot the i's and cross the t's. Others experienced intensification of the sense of smell, to the degree of being able by means of that sense to detect in a large audience the owner of a glove or ring which had been given them.

A noteworthy illustration of the subject is our power of distracting the attention from one sensory impression in order to fix it upon another. For example, Sir Walter Scott dictated the whole of "The Bride of Lammermoor" while suffering from an acute disease, and experienced no pain while his mind was engaged in literary composition. Curiously, on his recovery, Scott had no recollection whatever of the book he had composed. While preaching, Robert Hall was insensible to the pangs of a terrible disease which caused him to roll on the floor in agony at the close of the service. During his final illness, Dr. Edward H. Clarke, of Boston, suffered excruciating pain, to which, however, he could at will become indifferent by concentrating his thought upon the book he was preparing. The physiological explanation of these phenomena is that the fixation of attention determines the quantity of blood supplied to a given sensory apparatus and thereby limits its activity.

Another intellectual automatism is that which enables us to recognize the "outlines," or objective reality of the causes of a sensation. Sensation, as Berkeley taught, is really a subjective phenomenon, and is referred to outward objects by an automatic combination of concurrent experiences, all of which tend to bring us to this opinion. The test which enables us to distinguish between dreams and reality, is that in dreams one or more of these concurrent experiences are inconsistent with the rest. Dreams which we are hardly able to distinguish from reality are so simple that their concurrent experiences are coherent, *i. e.*, they might really have occurred.

This automatic integration of a number of individual experiences, and the manner in which it deceives us when unusual combinations are presented, was illustrated as follows: Two sheets of paper, the top and bottom of each shaped by arcs of concentric circles, and the ends bounded by the radii, were placed one above the other on the blackboard, the audience being asked to observe that the lower one appeared the larger. Being transposed, the lower still appeared the larger, although they were alike in size, the seeming difference being a deception due to the automatic conclusion that the radii of the two papers are concentric.

CHARLESTON.

(From our Special Correspondent.)

THE EPIDEMIC OF BREAKBONE FEVER which had prevailed here has disappeared completely with the presence of ice. This shows its relation to yellow fever.

MONTREAL.

(From our Special Correspondent.)

RARE SEQUEL OF FRACTURE OF THE BASIS CRANII.—At the last meeting of the Medico-Chirurgical Society of Montreal, a specimen was shown in which the right carotid artery in the cavernous sinus had been opened by ulceration from the sphenoidal cells, with the result of fatal hemorrhage from the nostrils. The young man had received a severe wound over the right eye by the explosion of a boiler, six weeks before his death. After recovery from the shock there were no cerebral symptoms, and the wound healed well. The sight of the right eye failed, and Dr. Bullard recognized a commencing atrophy of the optic nerve, and attributed it to extravasation in the sheath. He had several attacks of bleeding at the nose, but his general health was good. Suddenly one morning, while washing his face, profuse hemorrhage took place from the nostrils, and death followed before assistance could be obtained. At the autopsy the body and the right lesser wing of the sphenoid were eroded and soft, and a line of erosion extended beneath the dura mater along the right orbital plate of the frontal bone. Just where the carotid turns up to become the middle cerebral and where it lies in close apposition to the thin wall of the sphenoidal cells a perforation, 3 x 2 mm., had taken place.

There had doubtless been a fracture of the sphenoid at the time of the injury with subsequent ulceration of the bone.

KINGSTON MEDICAL SCHOOL.—The difficulties at this school, referred to in our last number, have been settled by the faculty agreeing to give separate courses to the lady students.

VIENNA.

(From our Special Correspondent.)

STATISTICS OF THE VIENNA GENERAL HOSPITAL.—The official report of the Vienna General Hospital for 1881, has recently been made public. A few of the carefully compiled statistics of Obersanitäts-Rath Dr. Hofman are quoted here.

Number of patients treated in 1881, 23,565; number of patients discharged, 12,268; cured, 3866; improved, 2353; not cured, 3007; dead, 13.7 per cent. (with exclusion of tuberculosis, 9.1 per cent.).

The number of sick in 1881 shows an increase of 316 above that of the previous year; number of dead, an increase of 107; a mortality increase of 0.3 per cent.

Number of sick with tuberculosis of lungs was 2034, of whom 1195 died, 777 were improved, and 62 unimproved.

Mortality in ileo-typhus in 212 cases was 22.6 per cent. Mortality in exanthemata-typhus in 52 cases was 23 per cent.

Tracheotomy was performed 30 times, with 4 perfect recoveries, two in which results are uncertain, and 24 deaths.

Herniotomy was performed 59 times, with 22 deaths.

Lithotripsy was performed 14 times, with one death; this patient had the operation repeated.

Litholapaxy was performed 22 times, with no deaths.

Laparotomy was performed 20 times, with 13 deaths, and 5 perfect recoveries.

Ovariotomy was performed 64 times, with 38 complete recoveries, 25 deaths, and one woman was discharged with marasmus.

Total extirpation of the uterus was performed 6 times, with 3 recoveries and 3 deaths.

SMALLPOX.—The whaling bark Hercules arrived at New Bedford, on the 24th. She has had ten cases of smallpox on board, three of which proved fatal. Those who died were foreigners.

CARELESSNESS WITH CHLOROFORM.—The Marine Court of New York was lately called to decide a lawsuit against a dentist of that city for a careless use of an anæsthetic, and it laid down a slightly stricter rule than that of some former decisions. The story of the case was that a patient applied to take laughing gas and have a tooth extracted. The gas was administered and the tooth was pulled; but at the critical instant the forceps slipped and a part of the tooth dropped down the patient's throat, lodging in the bronchial tubes. It took the man a month to cough it up, during which time he suffered severely. The jury found that there had been some negligence, and awarded $500 damages, which the Court confirmed, saying that as an anæsthetic deprives a patient of the control of his faculties and renders him unable to take any precautions or make any efforts for his own safety, the physician or surgeon administering it must exercise the highest professional skill and diligence to avoid every possible danger. The professional man, no matter how skilful, who leaves an essential link wanting or a danger unguarded in such treatment, is chargeable with negligence, and answerable for any resulting ill consequences.

Lawsuits of this nature have been very rare. In a New Jersey trial of a dentist for manslaughter, where one of his patients had died under the administration of chloroform, and there was some evidence that the dentist did not use proper precautions and that he was somewhat intoxicated at the time, the judge told the jury that practitioners are only expected to exercise ordinary skill and are not responsible for a death merely because unusual skill might have prevented it. In a Pennsylvania case the patient had previously had a severe fall which rendered him liable to paralysis, and he was, therefore, not a fit subject for an anæsthetic. The dentist, not knowing this peculiarity, gave an ordinary dose of chloroform, and finding this ineffective, gave more, until at length the expected effect was produced, and the obnoxious teeth were extracted. But next day the patient had an attack of paralysis, which his physicians attributed to the overdose of chloroform; and he sued the dentist. But the Court said that a practitioner is not responsible for remote or unknown causes of injury or for peculiarities of personal history or condition which are not explained to him; but if chloroform is ordinarily proper to be given in like cases, a dentist is justified in giving it. Some esteemed legal writers, however, say that a doctor ought to make examination and inquiry before he administers these dangerous agents.—*N. Y. Tribune.*

CONGRESSIONAL APPROPRIATION TO KEEP OUT EPIDEMIC DISEASES.—The Select Committee on epidemic diseases has asked, through Senator Conger, an appropriation of $25,000 to enable the National Board of Health efficiently to coöperate with State and other Boards of Health, in quarantining and examining immigrants for the remainder of the current fiscal year, in order to prevent the introduction and spread of smallpox and other infectious diseases. A bill for this purpose was reported by Mr. Conger to the Senate.

NEW GOVERNMENT HOSPITAL AT HOT SPRINGS, ARKANSAS.—A space in the southwest corner of the Government reservation at Hot Springs, Arkansas, has been selected as the site of the new Army and Navy Hospital for which there is an appropriation of $100,000. The matter is in the hands of the Surgeons-General of the Army and the Navy, who are now engaged in preparing the plans and specifications of the building.

DIPHTHERIA IN ST. PETERSBURG.—According to Dr. Gonz, in the *St. Petersburg Gazette* of December 3d, diphtheria has been very prevalent and fatal during the present year, the mortality being 47.1 per cent.

A comparison of the records for the past five years shows the recent fatality of the disease:

In 1877	the deaths	from	diphtheria	were	206
" 1878	"	"	"	"	508
" 1879	"	"	"	"	362
" 1880	"	"	"	"	355
" 1881	"	"	"	"	708
" 1882	(10 months only)			"	1066

A NEW JOURNAL DEVOTED TO SANITARY INTERESTS.—A new journal devoted to the interests of sanitary science, entitled *The Sanitary News*, is to be published semi-monthly, in Chicago.

WAYNFLETE PROFESSOR OF PHYSIOLOGY IN THE UNIVERSITY OF OXFORD.—DR. JOHN BURDON-SANDERSON, F.R.S., Jodrell Professor of Physiology in University College, London, has been elected Waynflete Professor of Physiology in the University of Oxford.

PRESENTATION TO M. DUMAS.—On Dec. 6th, the French Academy celebrated the occasion of the fiftieth anniversary of the election of M. J. B. Dumas, the celebrated chemist, by the presentation to him of a handsome bronze medal. M. Dumas is in his eighty third year, and has been perpetual secretary since 1868.

THE DUBREUIL PRIZE.—The Medical and Surgical Society of Bordeaux announce the following as the subject for 1883: "The Value of the Antiseptic Method in the Prophylaxis and Treatment of Puerperal Affections." The memoirs should be addressed to Dr. Donaud, Allées de Tourny, No. 10, Bordeaux, and should be sent before Aug. 10, 1883.

PROF. VIRCHOW'S HEALTH continues to improve, although, on November 26, he had a slight relapse from exposure in going to the Pathological Institute.

M. GAMBETTA'S WOUND.—The Paris correspondent of *The Lancet* writes: On Monday morning, about eleven o'clock, M. Gambetta met with an accident at his country house at Ville d'Arzay, a small town just outside Paris, under the following circumstances. M. Gambetta fired off a revolver in his bedroom, and, forgetting that another barrel was still loaded, held it with his hand over the muzzle, when it went off, the ball entering the palm of the hand and making its exit about the middle of the forearm. The doctor of the place was immediately sent for, and the wound was dressed by him. Meantime, Dr. Lannelongue, hospital surgeon, was summoned to the patient from Paris, and arrived about two hours after, when he examined the wounds superficially, and dressed them temporarily with the intention of re-examining them more minutely the next day, which he did, and declared that there was no fracture, no artery wounded, and that he did not anticipate any complication, notwithstanding the fever which had declared itself, owing to which the patient was obliged to take to his bed. Dr. Lannelongue reports that the patient's condition is as satisfactory as possible, and that the fever has entirely subsided.—*Lancet*, December 2, 1882.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending Dec. 16, 1882, indicate that typho-malarial fever, pneumonia, tonsillitis, bronchitis, and whooping-cough have increased, and that remittent fever has considerably decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending Dec. 16, and since, at 17 places, scarlet fever at 16 places, and measles at 3 places. The last case of smallpox, at Grand Rapids, was discharged from hospital Dec. 14.

OBITUARY RECORD.—A cable dispatch of the 25th inst. announces the death in Paris of Dr. Corvisart, the eminent French physician. It is stated that he never recovered from the shock he received at the announcement of the tragic death of the Prince Imperial in Zululand.

NOTES AND QUERIES.

CORRIGENDUM.

IN our issue of the 16th inst., page 689, the formula for crystallized bisulphate of quinine, $C_{20}H_{24}N_2O_2$, $H_2SO_4+7H_2O$, was incorrectly printed $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$. The formula was correctly written in the manuscript copy, and the error is typographical.

AN ENGLISH TRIBUTE TO DR. HOLMES.

Punch pays the following graceful tribute to Dr. Holmes:

"Sweet Holmes!

"(Dr. Oliver Wendell Holmes has resigned the Chair of Anatomy at Harvard University.)

"Your health, dear 'autocrat!' All England owns
"Your instrument's the lyre, and not 'the bones;'
"Yet hear our wishes—trust us they're not cold ones!
"That, though you give up bones, you may make old ones."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 18 TO DECEMBER 25, 1882.

ALDEN, CHARLES H., *Major and Surgeon.*—Now in St. Paul, Minn., to proceed to Fort Yates, Dakota Territory, and report to the commanding officer of that post for duty.—*Par. 3, S. O. 212, Department of Dakota, December* 14, 1882.

BROWN, JUSTUS M., *Major and Surgeon.*—Granted leave of absence for fifteen days.—*S. O. 119, Department of the South, December* 11, 1882.

BANISTER, J. M., *Assistant Surgeon.*—To proceed to camp on White River, Colorado, and report to the commanding officer for duty.—*Par. 7, S. O. 250, Department of the Missouri, December* 11, 1882.

HALL, W. R., *Assistant Surgeon.*—Leave of absence for one month is granted.—*Par. 8, S. O. 250, Department of the Missouri, December* 11, 1882.

MADDOX, T. F. C., *Assistant Surgeon.*—To report to the commanding officer at Fort Clark, Texas, for duty.—*S. O. 138, Department of Texas, December* 16, 1882.

PORTER, J. Y., *Captain and Assistant Surgeon.*—To proceed to St. Francis' Barracks, St. Augustine, Fla., and to report to the commanding officer of that post for temporary duty.—*Par. 2, S. O. 119, Department of the South, December* 11, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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